

WESTERN SERIES OF READERS

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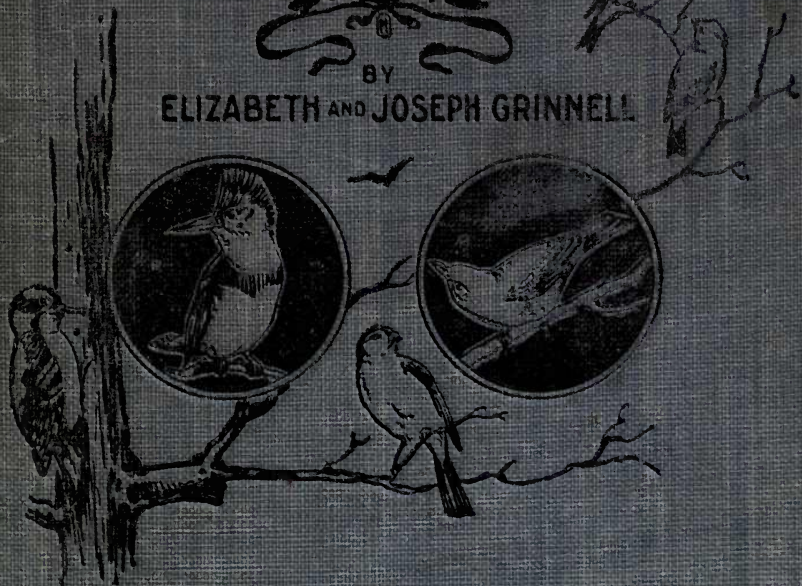


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STORIES
OF
OUR WESTERN BIRDS

BY

ELIZABETH AND JOSEPH GRINNELL



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LINNETS IN PEACH TREE

WESTERN SERIES OF READERS.—VOL. IX

STORIES OF
OUR WESTERN BIRDS

BY

ELIZABETH AND JOSEPH GRINNELL

AUTHORS OF "OUR FEATHERED FRIENDS," "BIRDS OF SONG AND STORY," ETC.

Illustrated

BY

W. K. FISHER

OF STANFORD UNIVERSITY



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PREFACE.

It is a matter of common notice that bird-life offers the most attractive outdoor object of interest to the average schoolboy. The almost human personality of birds, their varied form and color, their ceaseless activity, their evasiveness, — all conspire to arouse an intense curiosity. And why should we not encourage this curiosity? If properly directed, it is certainly a valuable and ready incentive, to be seized upon and harnessed into the process of education. The keenness and accuracy of observation cultivated by the overcoming of that very elusiveness so characteristic of birds, will remain long after the bird itself is forgotten. It is a significant fact that many of our greatest scientists and professional men admit their earliest active interest to have been in bird-study, to which stage in their mental development we may attribute a good part of that training so invaluable in their later more serious lines of work. In the following simple descriptives, my mother and I have tried to help arouse and direct interest in bird-study among school-children, as well as, possibly, older folks. It has been our aim to present a fair amount of information, but diluted with enough of the commonplace, so as not to balk the most timid spirit of inquiry. We want the reader to finish each chapter with a wish to find out more things for himself by direct observation of the living bird.

JOSEPH GRINNELL.

STANFORD UNIVERSITY, CALIFORNIA,

February 9, 1903.



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THE LINNET.



THE linnets are our nearest neighbors. The only reason why they do not live in the house with us is because they are shut out by the screens. We love them. We invite them to stay with us. We plant many things on purpose for them. We feed them at the garden-table.

But many people do not love them. The pretty birds are persecuted in ways we do not care to describe. They are shot, poisoned, stoned, hated more than any other birds in the Southwest. And for what reason? Why, farmers say they "eat their fruit-buds in the spring, and what fruit there is left in summer-time."

Well, it's true that linnets do eat some fruit-buds. But the whole truth is, they never take half as many as they ought. It

REFERENCE TOPICS.

What is adobe?
Adobe houses.
Spanish colonization of California.
Uses of birds in millinery.
Wanton destruction of birds for millinery trade.
Herons and algrettes.
Fruit-drying industry.

would be better for the trees and better for the markets if fewer buds were allowed to "set."

In southern California, this year, many peach orchards have been left to drop their fruit on the ground. There were too many peaches to the tree, and the same with the apricots. The fruit was small. Five dollars a ton, and sometimes three dollars, was the price offered. It did not pay the growers to market the fruit. Had there been only a few dozen peaches or apricots on a tree, these few would have brought good returns. So we read in the farmers' papers this advice: "Thin out your fruit in the spring!" The ordinary farmer does not think it pays him to hire a man at two dollars a day to pick the fruit from the overladen branches. So the apricot and peach orchards are left to their own way. This way is to ripen bushels to the tree, and these are little things the markets do not want. The less fruit on a tree, the larger and finer it is sure to be when ripe. The linnets would do the "thinning out" for the farmers, if they were not persecuted so. The birds would take the buds, and so pay the farmer for what fruit they might claim in summer. But the farmer "hates the sight of a linnet," and if he sees a dozen of them in a peach tree, in the spring, or any other time, he picks up

stones, and calls the dogs, and sets his own boys after the poor birds, and sometimes does worse things.

In some parts of California the Russian thistle is making its way into the fields and gardens. The farmers are frightened. They are holding up their hands, and crying, "What shall we do? What shall we do?" The linnets, standing close-by, are making answer, "We will do! We will do!" The farmers hear them, and throw more stones at them. They do not understand the linnets' language.

You may imagine this is what they are saying: "We must have seeds for food more than half of the whole year. We have always lived on seeds. Before the people came and set out orchards, we ate nothing but seeds and small wild fruits. If you will let us live and have a little of your fruit in summer, we will eat up all the thistle-seeds as fast as they ripen. And we will go on eating all the weed-seeds, as we have always done. We will be partners, you and we, and do each other good turns."

In fall and winter you may take long walks into the country and see for yourselves what the linnets are doing. You will find them in flocks in weed-patches, swinging on the stems, chatting

about their work, shelling the seeds from big and little plants, and picking up what have fallen to the ground. Happy-go-lucky birds they are when they are out of the farmer's reach. And their songs are very sweet. The linnets are among our very finest singers. Pleasant of voice, they never scold, nor "scrap" with other birds. They love our homes.

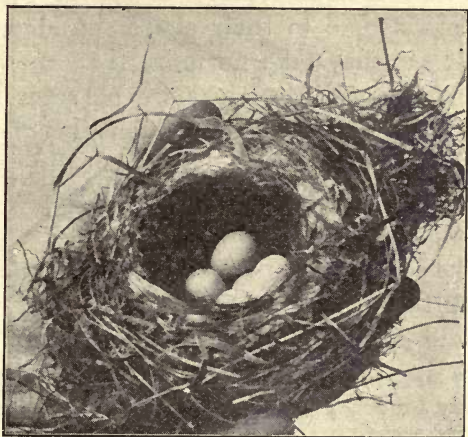
Before we brought fruit trees to California, and so began to hate the linnets, the Mexicans were very kind to these birds. Early travelers tell us they nested on window-shelves, under cornices, in the tiles of the roofs, on any little break in the adobe house walls, and even on the picket fences. The native people were fond of them, and not a child harmed them. They were called the "adobe-bird," because they loved to be around the adobe houses.

In the cities of California, the linnets build in shade-trees along the streets. But they are shy, the male keeping well out of sight. Their nests are robbed and the old birds persecuted, even though there is no fruit for them to steal.

If the city children knew all the fun there is in taming the linnets, they would not miss it for the world.

We will tell you a little of what we have done.

We have lived in a California city for many years. Our grounds are large enough to grow all the common fruits. We have invited the linnets to stay with us, summer and winter. There are a dozen nests under the eaves, as many in trees and



LINNET'S NEST.

shrubs, and no end of nesting-material placed within sight and reach of the birds. We nail cigar-boxes on the sides of the barn and woodshed, and berry-baskets in the trees and upper balconies. Linnets nest everywhere, and they sing the year round for us.

They will build nests "to order," of almost any

sort of material we give them, and invite us to watch how they do it. They bring all the other birds to the grounds, so we have as many as thirty-five varieties in the garden in the course of a few weeks.

Don't they eat our fruit? Of course they do. They are welcome to their share. And we can truthfully say they take no more than their own share. We have little tricks we play for them. We sow them a lettuce-bed, plant berry-vines, place cull oranges cut in halves about the garden, and always have the table set for them. And they do not eat us out of house and home! Linnets make so much noise about their meals, people think they eat more than they really do. If they would keep still, the farmer would not know they are in his fruit-trees, nor would he miss what they take. It is their constant chatter that gives them away. But we like their chatter! It would be a dreary place for us without the linnets. There are plenty of birds and other people who do not sing. These are always sad or cross. They do not cheer the world any. Did you ever notice that the people who hate linnets are cross people? They turn sour, like wilted peaches.

If you would be happy as linnets the whole time, be comrades of the linnets. Learn what

there is good to say about the birds, of whatever sort, and tell it at home and abroad. Do not covet what the birds eat. Cover up your share of the berries in the garden with mosquito-netting, or stand guard at the strawberry-bed when the linnets and sparrows are talking about "berry-time." You can get up with the birds, and have the best time in the day before sun-up. While you are keeping off the birds, you can learn what there is to know about the strawberry-plants. See the little baby strawberry-runners! They are children of the old plants. They are tied to their mother's apron-string until they are able to get their own living. O, it is a good thing for linnets, and boys and girls, to be alive in California! They might go to school together. There is no bird so fitted to be about the schoolhouse as the linnet. Suppose the children of the lower grades spent half an hour a day watching them? And suppose there was a lettuce-bed or a little strawberry-patch under the window on purpose for both to study? It would be as good for the children as playing marbles. An owl's nest in the belfry, and a lettuce-bed under the window! Ah! these would make a kindergarten indeed.

The wisest men and women and the smallest children are taking more interest in birds than

ever before. Bird-books for reading are found in nearly all our schools in America. People are beginning to understand that birds were made for something better than to kill for sport, or to eat, or to wear in horrible shapes on bonnets.

Everybody is wanting to find out something new about our birds. Professors from our universities are going to the far-off corners of the world, to the islands, to the polar and the torrid regions, to study birds. They want to find out all there is to know about their ways, their nesting habits, their plumage. The school children of the West could be a great help to the scientific world by learning new things about our common birds. Take the linnets, for instance. How many sorts of weed-seeds do they eat? It would give the boys and girls many a long tramp to find this out, and they should make notes of what they see, in a little note-book carried in the pocket. They could bring home specimens of all the seeds, and the botany teacher could name them. And by and by even the farmers would change their minds about the linnets, all on account of what the children have found out. And the linnets will be loved, instead of hated, as certain sparrows in the New England States are now loved for what they are doing for man, where, years ago, they were despised and driven away.

THE MOURNING DOVE.



LIKE all the pigeon family, the mourning dove has a very small head, set on broad shoulders. Any child would recognize it at a glance. As for its song, its name describes it, — a sad coo-oo, very low, or quite loud and strong. It is sometimes a sweet note, with less of the sadness. But it is true that the voice of the mourning dove never “cheers a person up,” like that of the flicker and the robin.

The nesting season of this dove is from February to September. The nest itself is a flat structure, with no attempt on the part of the builders to show skill or beauty. Just a few sticks and straws, and it is done. It may be on the ground, or in low bushes, or higher in the trees. And the eggs are only two, of a spotless white.

Both parent birds feed the young by regurgitating the food they have them-

REFERENCE TOPICS.

Tame pigeons.

Game seasons.

Object of game laws.

Game-preserves.

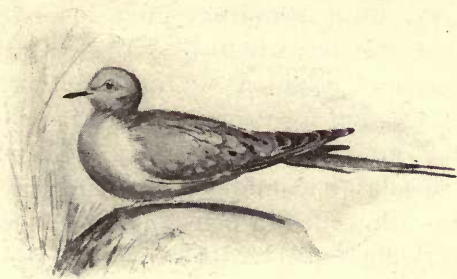
selves eaten and partly digested. You will seldom see mourning doves in compact flocks, like the blackbirds and finches. They are most often in pairs, or in groups of four or six. They are very fearless during the season in which they are protected by law, and are sometimes seen with the hens in the barn-yards, or in stubble-fields close to the farm-house. They are ground-birds, and get their living by what they pick up,—seeds and grains, and perhaps some fruits like grapes and berries.

A pair of mourning doves are true and faithful to each other, and are said to be mated for life. But the life of any dove in the West may be very short indeed. From August 1st to February 1st they are hunted and shot without mercy.

During the summer, they were so happy and so tame! They would come to drink at fountains and streams right in your sight, and often fly past you, so near you could have touched them. But one morning there came a sudden fright to the trustful little doves; and before they knew what was happening, a dozen shots were in the air, and as many fluttering birds fell dead. Mates were separated, parents and children were lost to one another, and those who escaped on that morning were hunted the next day. It does n't

take very long to "thin out" the mourning doves in the hunting season, so we cease to see them about our homes or in the open fields and on the mesas.

They and the quail retire farther and farther away, and learn to keep very still and out of



THE MOURNING DOVE.

sight. They grow to be very alert and wary, seeming to recognize the sound of a shotgun from a long distance. And well they know what the loud report may mean! It is a sad time of the year, and nobody seems to get any pleasure out of all the killing, save the hunters, and they call it "sport."

We have heard of several attempts to domesticate the mourning doves, but they are said to be

usually afraid, and to refuse to be tamed, even when they are petted and fed for a long while.

There was something very wonderful happened to us a year ago. We were in the garden, talking about the thrushes, and the phœbes, and the linnets, when there came the whirr of wings, and a mourning dove alighted in a pear tree close to where we were standing. We looked at one another in wonder, when the bird flew straight to one of us and alighted on his shoulder. From that day on, and for nearly a year, that mourning dove was our household pet. It went in and out on our heads or shoulders, slept on the picture-frames or the curtain-poles, or on the cupboard doors. It ate only bird-seed which the canary left when it flew away, and a very few bread crumbs. We knew it to be a female, because it lacked the shining tints and velvety spots of the male.

It went away one day, but returned after several weeks, and seemed glad to be back again. We learned to love it very much. And strangers wondered, when they came to see us. The first thing a visitor would know, when seated, was a flutter from the next room, and the dove alighted on his or her hat. (This is the only bird on a lady's hat which we have ever enjoyed looking at;

and the only one we have ever seen which had a natural look.)

If the visitor were a gentleman, the dove flew straight to his bare head and peeped over his forehead, as if to see what color his eyes were. But Dovie always preferred ladies and girls; and children she loved, flying back and forth from one to another as if delighted to see them. In spring she began to peep into the closets and over the shelves, and in the baskets and hats and paper bags. All the time she would "coo-oo" low to herself, and sometimes fly to our shoulders and rub her pretty head on our cheeks and caress our faces with her beak.

One day one of the family was making ginger-cookies, and went to the closet for the spices. There, on top of the spice-box, was a handful of twine, and in the middle of the twine a white egg.

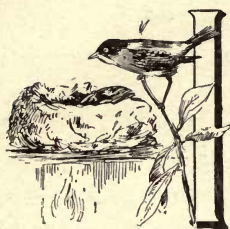
After this, during the summer, Dovie made seven nests and laid seven eggs. She never laid more than one egg in the same place. And the nests were light and loose, just as the nests of the mourning dove are made in the wilds. No attempt at building up the sides, or at soft linings. Sometimes she took only bits of white cloth and strings, and twice she went to the work-basket and selected pretty bits of lace and baby ribbon.

This particularly nice nest she made on top of the piano in the parlor, under the breasts of a couple of stuffed white ptarmigan.

She made one nest on the library shelf, one in the crown of an old hat on the back screen porch, one on the shelf in the clothes-closet, and one between two pegs where clothes were hanging. There happened to be a dress sleeve caught aslant of the two pegs, and on this she made her nest and laid her egg.

The whole story of our Dovie would make several chapters. We have told enough about her to make you wish that you had a wild dove come to you and live in your house for a whole year. When you are out in the fields or foothills, and see the doves, please call, "Dovie, Dovie," and perhaps our pet will come to you. But do not shoot her! Indeed, no hunter could have the heart to shoot her, for if she saw him in time, she would fly straight to his shoulder and say, "Coo-oo, coo-oo."

THE BLACK PHŒBE.



ITS name is always Phœbe, old or young, male or female. And the bird named itself. For fear we might forget, and call it Susan, or Maggie, or Mary, or Tom or Charles, it keeps saying, "Phœbe," over and over, the whole year.

Each bird calls its mate Phœbe, and the parents call all their young ones Phœbe; and they all together cry "Phœbe" when they are hungry. You hear it from the barn or house roof, from low weed-stalks, from the top of the garden hydrant, from the wood-pile, anywhere from any lookout point. The plaintive note comes from the clothes-line, where the bird balances, tilting up and down until it can catch sight of that insect again.

People who are not cheerful by nature do not like the phœbe's note.

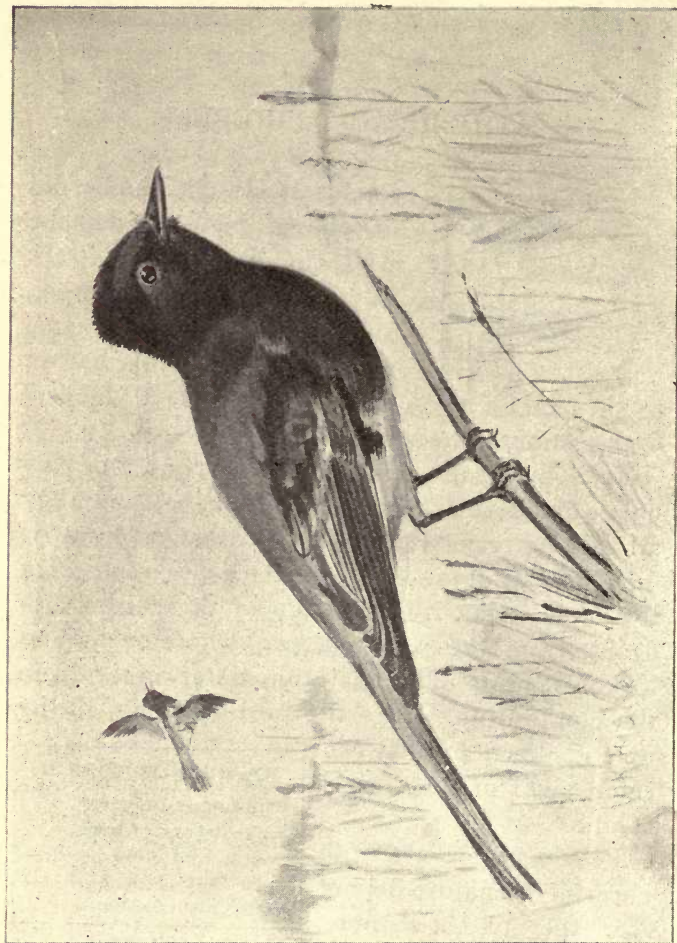
REFERENCE TOPICS.

The honey industry.

Life-history of bees.

Social and solitary insects.

Structure of stings.



THE BLACK PHEBE.

But merry folks, who like to laugh at anything, will tell you they love to hear it, especially on a foggy morning.

There sits the bird right before you, on the top of the barn-door, which you left open! She is turning her head to one side in the familiar way she has. She ruffles her small crest, and looks all over as if she had dressed for breakfast in a hurry. Her habit of lifting her feathers gives one the idea that she is a very careless bird, always in poor dress. But it is not so! She is tidy, even when she is on the edge of the puddle for mud. She may have a beakful, but not a speck is on her breast, or face, or wings.

We leave the garden hydrant dripping on purpose for Phœbe, from March to August, as this is her nesting-time; and phœbe-birds must have water at nesting-time.

She may bring off three broods during the spring and summer. With four to a brood, that would make twelve young phœbes a year for each nest made. And yet phœbe-birds are not so very common about our homes. We have but one or two pairs with us, though we tempt them to come by all the ways we know.

The phœbes build under the eaves, if they can find the least shelf for the first load of mud.

With too small foundations, these nests usually fall by their own weight.

You may see the phœbes peeping about under all the cornices, almost any day in the year. To be sure, their main errand is for food; but they



YOUNG PHOEBE.

take notes about the good nesting-nooks, and remember when the time comes.

We nail cigar-boxes under the barn eaves for the phœbes. We have a pair which have nested in one box five times. It is under the projecting gable of a low stable roof, on the north side. They seldom choose the south or west. They like

shade and coolness. The young would die in the hot south sunshine, and the mud nest would crack with the sun directly on it.

The edges of our box gave Phœbe a footing while she was making the nest and caring for the young ones. When they were feathered, they leaned over the side of the box and cried, "Phœbe, Phœbe," instead of "Mamma, mamma." No other young birds we know can speak so plainly.

As soon as they could fly, the mother brought all four of them to the rose-trellis by the beehives, where they cried in concert, "Phœbe, Phœbe," as if they were talking to the bees. But the bees paid no heed until they were obliged to. It was drone-time, and the big bumming fellows were filling the air.

What are drones? They are the males of the common honey-bee. They are larger than the worker-bees, very lazy, and fly only in the middle of the day, when the weather is very warm. They never bring a drop of nectar to the hive, nor do they help at the work inside the house. They just eat and eat, and get in the way of the workers. You have heard a lazy boy called a "drone"? Probably it is not because he eats so much, but because he does not help with the home-work.

Well, the phœbes are very fond of these big drones. Mother phœbe snatched one as it was booming back to the hive. Any one, even a bird, can tell by the sound when drones are in the air. She brought it to the trellis and banged it against the bar. Then she gave it to a young phœbe. You should have seen the fun! Get yourself a beehive, and you will soon have the phœbes about your place. The little phœbe next to the mother took the drone, and the next young phœbe snatched at the other end of him. Each pulled as hard as it could, and of course the drone came in two somewhere. But the tail of the drone had no sting, and so the fellow that got the head was no better off than its brother, who got the tail. Drones never do have a sting, and that is the reason the mother phœbe likes to feed them to her young ones. And she taught them early to choose the drones, when near the hives. And she was teaching them to sit still and watch. A good lesson for anybody to learn!

Phœbe does not catch insects while soaring on the wing, as the swallows and swifts do. She sits on the watch and makes a dive or lunge through the air, just as the kingfisher sits on his perch and dives into the water for fish.

Sometimes the phœbes see a saw-bug or small

beetle crawling on the ground, and they make a dive for it, not walking or even standing on the ground, but supporting themselves by their wings while they snatch it. Their feet, like the feet of the humming-birds, are made for perching, not for walking or standing on flat surfaces.

Once our phœbe was late in relining her old nest under our eaves in the box, and linnet laid her own eggs in it. Phœbe came and told her, in a very mournful voice, that the nest was hers; that she had built it in the first place, and had already occupied it four times. But linnet would n't move out. She said she had "rented the house for the season," and phœbe would have to go somewhere else. At least, this is what we supposed she was saying.

Phœbe pulled at linnet's shoulder and said harsher notes to her. Then she called father phœbe, and they both tried to get linnet out of the nest. Linnet poked her beak out at them as if to fight them, but cuddled down more firmly into the nest. Then she called father linnet, and he argued. And they all four argued. At last the phœbes gave it up, and went off to a neighbor's barn. But they watched their turn, and one day, as soon as the young linnets had tumbled out of the nest, phœbe took her place, nor

did she give it up when linnet asked her. Twice has linnet had that nest, and five times has phœbe had it. Each bird relines it before laying her eggs. The swallow claimed it last summer, as you will see in the swallow chapter.

The black phœbe is one of our most trustful birds, and is resident all over California. It lives on insect food, and so is a very good friend to the farmer and the housekeeper. It is up early for the flies on the screens and under the spouting, and sits up late for the insects that love the twilight. It has been seen to catch moths and lacewings by lamplight.

We have not seen the male assist at the nest-building, but he is always close-by to hear the call of his mate. He helps to feed the young and to teach them how to fly. Should they fall in attempting too long a flight for the first time, he flies straight down to them and tells us exactly where to find them. The young do not leave the nest as early as other birdlings which are hatched from nests in bushes and close trees. The phœbes are usually high up, and can see nothing to tempt them out of the nest. You may see them peeping over in a half-frightened way. If they catch sight of you, they will bob their heads down behind the nest rim. If you climb to the nest and put

up your hand, expecting to find out how young phœbes would look and feel in the palm of your hand, you will be disappointed. Out will fly all four of them before you touch them. And it is surprising what a long journey this first flight usually is. They must be surprised themselves. How did they know they had wings? But you frightened them, and the wings of a scared bird seem to grow in half a minute or less.

They have been seen far down in mine-shafts.

The phœbes do not nest in colonies, like the swallows. We have not seen a phœbe's nest near the nest of any of her phœbe friends. They like to be alone.

There is a little boy in San Luis Rey, whom we have not seen, but who writes us letters about the birds he sees around his home. He is too young to go to school, and writes in print. Once he made the picture of a bird which he told us was very tame about the house, but "loves to stay all by himself," "very black, with a white waistcoat." And would we "please tell him what it was"?

Had he not told us a word about the "white waistcoat," and the bird's habit of "sitting all alone," we should have recognized the phœbe by its picture drawn with pen and ink. The head is large and slightly crested, and the long black

wings droop well down. It is a splendid picture of a phœbe. The little boy who could draw it at seven years of age will some day make an Audubon or a Wilson.

If children would more often make a picture of the birds they see, what a fine photograph-album they would have by and by! Learn the expression of the whole body,—how the head is carried, how long the legs are, and what sort of beak and feet the subject has. A note-book with a picture on each page would be so interesting! The picture would head the page, and beneath it would be the written description, colors, habits, food, and place of residence. Try it!

WOODPECKERS.



COULD the woodpecker tell his own story, it would be worth the hearing, and take him a good while to tell it.

It would need no patience on our part to listen, for no other bird has ways so drolly interesting;—no, not even the jay or the crow.

And he ought to be able to tell a good story, with such a tongue as he has in his saucy head. Not that he uses his tongue to talk or to sing with; but he does stranger things with it.

If your eyes are sharp, and you are able to stand quite still among the oaks, so nobody will know you are about, you may chance to catch a glimpse of woodpecker's tongue. Not that he was ever known to "put out his tongue" for anybody to see,—not he! He thrusts it out suddenly, and into crevices of bark, and cracks anywhere,

REFERENCE TOPICS.

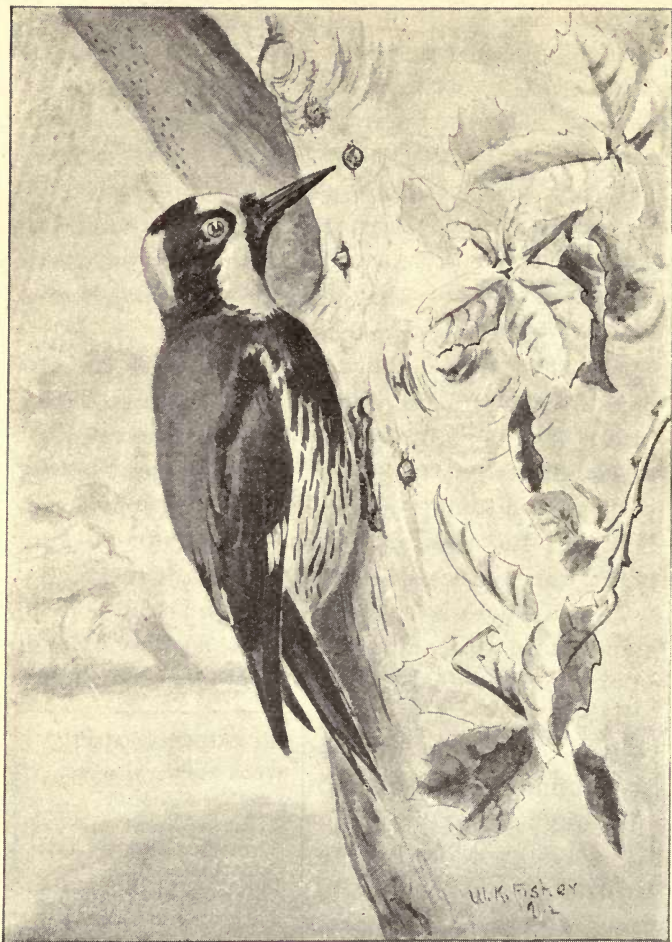
Wood-boring insects.

Lumber industry.

Structure and use of woodpeckers' tail-feathers.

Acorn-storing habits of woodpeckers.

Who was Audubon?



THE CALIFORNIA WOODPECKER.

and little holes, for any dainty morsel of an insect which may be hiding.

The bird will hardly give you time to notice that the very tip of his tongue is barbed like an arrow, or the spines of a cactus. These barbs are placed on the tip of the woodpecker's tongue on purpose to hold onto things with.

It is very interesting to watch the woodpecker among the trees in quiet places, poking about with his tongue in the haunts of the beetle folk that would only be too glad to get out of his reach. And they would get away in a hurry, many a time, were it not for the barbs on the rascal's tongue. These barbs seize right hold of an insect and draw it out of its snug quarters. You see, the barbs slant backwards towards the throat of the bird, and so they brush whatever is in their way straight into the open beak of the woodpecker.

Should you say to the woodpecker, "Let me see your tongue, if you please, sir," and the bird should put it out, you would notice that it projects as far beyond the tip of the beak as the length of the beak itself; and you would wonder what he does with it when he is done putting it out.

If by any chance you should come upon a dead

woodpecker, you might ask the teacher to dissect the head, so all the children in the room could see exactly how the tongue works. You would find that it is divided in the throat into a pair of slender gristle bones. These bones pass clear over the back of the skull, coming down in front to beneath the nostrils. A narrow strip of muscle goes along with them, to help them move back and forth. So, when a woodpecker pleases, he is able to stretch his tongue far beyond his beak.

And the bird has use enough for such a tongue. It does its best work in the dark. It is so sensitive, we might almost conclude the bird smells with it. If it finds an insect too small for the barbs to get good hold of, the woodpecker wets the tip of its tongue with saliva from its mouth. Of course the insect sticks, and comes out of its hiding-place, just as the woodpecker would have it. It is on the same principle that you wet the end of your finger to pick up a very small flat seed.

The saliva of the woodpecker is made after a sticky fashion; and the more the insect kicks against the "tanglefoot" paste, the closer it sticks to the tongue of the bird.

But the tongue would be of little service with-

out the beak behind it. The beak is strong and hard. It is hammer, and auger, and ax, and wedge.

A few feet from the window where we are writing is one of those great black walnut trees we have mentioned before. This very minute a woodpecker is hammering away with all his might. His big head bobs up and down as if it were a hammer-head driving a nail into the tree. He is holding on by his toes, and partly bracing himself by the tips of his pointed tail-feathers.

His toes are not like those of most birds. There are two of them that point forward, and two that point backward, or downward, when he is on the tree-trunk. He has no fear of falling or slipping. He might take a nap in the selfsame position, were we not going to open the door at this particular moment.

We go out towards the tree silently and slowly. Woodpecker observes us, and takes a hitch around the trunk in a fashion of his own. He would have us think he has gone away to the woods. We wait! We know his tricks! Now his big round head appears slyly from behind the tree, and he takes a hurried look our way. Now he takes another hitch, and so we follow him quite around the tree. He stops to hammer be-

tween spells, and this gives us time to walk closer. Our great American bird student, Audubon, tells this story of the woodpecker as he knew the bird:—

“When alighted on a fence-stake by the road or in a field, and one approaches them, they gradually move sidewise out of sight, peeping now and then to discover your intention. When you are quite close and opposite, the birds will lie still until you have passed, when they hop to the top of the stake and rattle upon it with their bill, as if well pleased with their trick. Should you approach within arm’s-length, which you may often do, the woodpecker flies to the next stake, bends his head to peep, and rattles again, as if to invite you to go on with the game. He alights on the roof of the house, goes along it, beats the shingles, utters a cry, and dives down into your garden to help himself to your best strawberries.”

When our woodpecker flies, he looks as if he wears a white gown, with a black cloak thrown over his shoulders, and a crimson cap on his head. As for his eyes, they are white or pink, and they look so droll, something like the eyes of the blackbirds on the lawn.

Now he is running up and down and all around a pepper tree in the front garden. We should

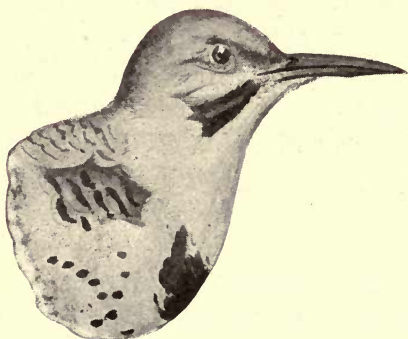
say that he runs up, and backs down the tree; for he does not run head down, as the creeper and some of its relations do.

He is making little round holes in the bark of the pepper tree. He has already made this tree look very oddly marked, as if it were done on purpose to show us what a fine wood-carver he is. Some of the holes are in rows, and others scattered or in imperfect rings. Many of them were made some time ago, and are full of white sap, now dried into white gum or resin. Woodpecker picks this gum out, but he has better manners than to chew it in company. Indeed, he never does chew it at all. We suppose it melts or softens after it is swallowed, and digests.

Some of the little holes in the bark are old and black, and the bird finds nothing in them. He simply peeps into them as he goes around, making fresh holes, and taking gum from others. He may imagine it was himself that stored the white gum in the holes, as he is known to store other things. The truth is, he simply bored the hole, and the tree secreted the gum for him. First it was juice, and then it congealed into wax. You can taste it for yourself. You will wonder what woodpecker wants of such gum as that.

Some woodpeckers are thrifty. They have a

way of "saving something for a rainy day," which other people would do well to imitate. One kind of woodpecker, called the "flicker," was seen to drop acorns into a hole in the roof of an old barn. As often as he dropped the nut in, he peeped down to see it, but it was out of sight. Usually, he can



THE FLICKER.

see what he is hiding, and judge if it is properly done. Not seeing his acorn, he went on dropping more into the hole, as if he were bent on filling it to the brim. But it was more of an undertaking than he supposed. He gave it up after a few days. It would have taken more acorns than a hundred woodpeckers could find to fill that empty old barn. That was a good joke!

Woodpeckers make their nests at the end of

long, deep holes in tree trunks. A boy sees a hole far up the side of an old tree, and he thinks "now is his chance." Has n't he "wished he could find a woodpecker's nest" for many a day? After a while, after breaking his suspenders, and tearing his clothes, and getting smut from last year's forest fires all over himself, he reaches the hole. It is much deeper than he supposed. His arm seems shorter than it ought to be, and he tries the other arm. Should he reach the bottom of one nest out of half a dozen that he is lucky enough to find, he may wish he had n't; for snakes very often make their homes in such places after they have been deserted by their original owners. Possibly the bird has told the boy exactly where to find the nest, by dropping a pile of chips at the foot. Woodpeckers and carpenter-bees have a way of scattering their chips about at the base of the tree they are working in. Thus are these "workmen known by their chips," as says the old adage.

The eggs of the woodpecker are from four to six. They are white and glossy, like the china eggs used for nest-eggs in a poultry-yard.

Besides insects under leaves, under bark, and in decayed wood, some woodpeckers catch moths and flies on the wing almost as well as the true fly-catchers.

In fruit and nut time they "live high," and this is when the farmer wishes there were n't any woodpeckers, and he sets his boys to "shooing" the birds away.

If the boys surprise a woodpecker in the orchard at a late apple tree, he will plunge his beak into a sample and fly off to cover with it, as much as to say, "I'll have one out of your hundreds, any way! Follow me and get it!"

Woodpecker knows a corn-field from a marsh meadow or an orange orchard; and he loves to strip down the corn-husks. He listened outside, clinging to the tall stalk, and he heard the fat worm gnawing its own breakfast inside. In taking the worm, he incidentally tastes of the milky, sweet juice of the corn, and smacks his mouth for more. The farmer thinks he comes for the corn, when in truth he is after the worms, that are there before him. But woodpecker and Mr. Farmer have a misunderstanding about the matter. Woodpecker is waiting, with many other birds, for the boys to tell the farmers they are more good than harm.

THE CROW.



WHEREVER the crow "caws," there is trouble. He may not make the trouble himself, but other people will. The farmer sees him at work or play in the field, and shoots at him. The crow usually flies off, mumbling something about "only hunting for grubs! Did n't mean to pull up the corn too."

The crow is a relative of the blue jay, and has many of the habits of the jay. The jay wears a prettier coat than the crow, and perhaps it is on this account that he is not so commonly despised. Crow has a hard life of it, let him live where he may. Next to the linnet, our farmers hate him. All farmers everywhere hate him, and so unlucky crow keeps as well out of sight as he can.

No need of telling any one that the crow is black. You would as soon look for a red and blue

REFERENCE TOPICS.

Scarecrows.

Corn-planting.

Life-history of wire-worms and cut-worms.

stovepipe as for a crow of any other color than black.

Perhaps it is because the crow *is* black, and he knows it, that he shuns the open country as much as he can. He loves best the dark woods. Here he is not so easily seen. He has learned to be wary. All his forefathers and foremothers have been despised, and the instinct to keep out of reach is born in him. Especially does he keep at long range when a hunter is in sight.

But whatever may be said against the crows, they have a virtue which should commend them to Western people. It is said that a pair of crows, once mated, never separate as long as they live. They take each other "for better or for worse." And if left undisturbed, they use the same nesting-site year after year.

To be sure, it is not much of a nest, only a few sticks laid up loosely on the branch of a tree. The eggs are four to six, greenish, dotted with browns. In the low lands the nesting-season is in April and May.

Though the crows do not nest in our gardens, they are known to visit our farm-yards and fields when they are hungry, like any tramp. They are seen to follow hunters when they are out camping, like the jay, for what crumbs and scraps they

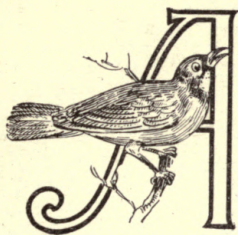
may find. They are accused of taking eggs from the nests of smaller birds and flying off with them, to eat them at their leisure. That is no more than we all do, is it? Do not we all hunt eggs, and think we have fine luck if we chance upon a hatful in the mow? Crow can take but one at a time, since he wears no hat.

Crows are really useful birds, and the farmers should not despise them so. They take thousands of insects, that are worse enemies to the farmer than the crows themselves. Wonder if the farmers will believe this! The boys might watch and see if this is true. The boys might form boys' farmers' clubs on purpose to report for the birds who are unable to speak for themselves. It would be great fun, as well as a useful work for the interests of agriculture.

Perhaps you will not see the crows in large flocks, but oftener in pairs, or in autumn, in families of five or six. They seem to be holding conferences together at times, sitting on bare limbs of trees and chattering in their own dialect. Tamed crows make interesting pets. There was one in our family once, for a while; but on account of his habit of hiding grandmother's spectacles, and sister's thimbles, and father's pennies, he was excused from living with us very long.

He had a sly way of hunting through coats and vests that happened to be left in his sight. He knew how to find the pockets, and stole what happened to be in them. Cunning fellow! and a thief as well!

THE WESTERN ROBIN.



ALWAYS the robin is the robin, for you know the bird by its red breast, unless it happen to be very young, when the breast is speckled. The robin is a little wanderer, but no tramp; he works for his living wherever he goes, and so does his whole family.

They come south in large flocks in winter-time, going back into the mountains to the north of us when spring comes, to nest and raise their young.

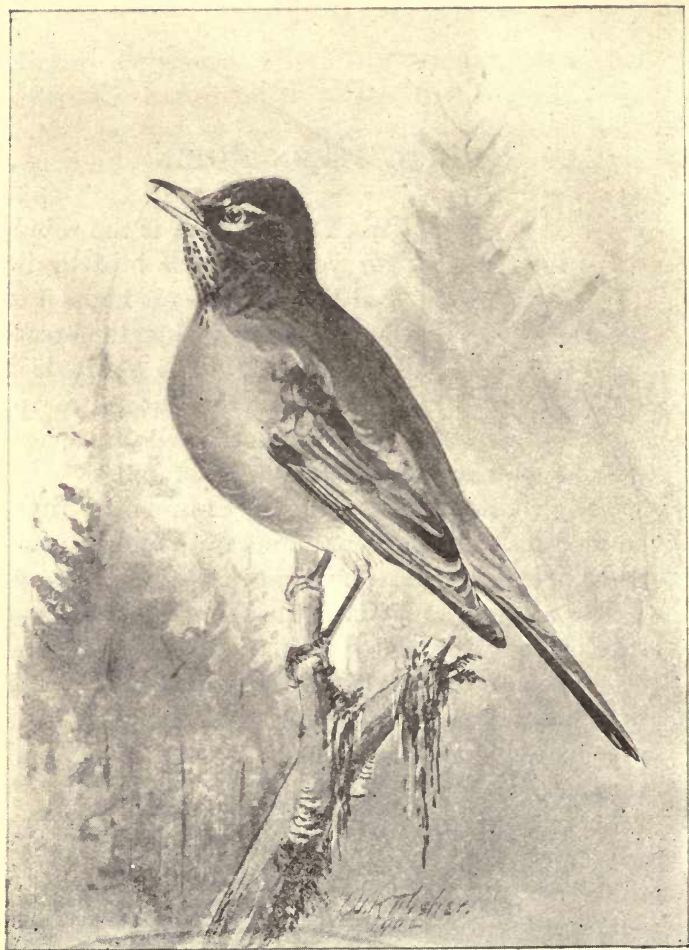
The nest of the robin is the same on whichever side of the Rockies you may find it,—in the crotch of a tree, made of sticks and mud, lined with hairs. And the eggs are ever the same little greenish-blue gems. They may be four, and they may be five.

Just as our first rains of winter are dripping from the tree boughs, there comes a familiar cry from somebody, "The robins

REFERENCE TOPICS.

Shade-trees and evergreens.

Value of angleworms.
(See DARWIN'S *Vegetable Mould and Earth-Worms.*)



THE WESTERN ROBIN.

have come! The robins have come!" and we run to see. There they are in the pepper trees.

Our pepper trees seem to ripen their clusters of red berries on purpose for the robins (and the waxwings), and these birds never leave us until they have stripped the boughs. They swallow the fruit whole, and throw up the bare, hard seeds after the sweet pulp has digested. You can hear the patter of the seeds on roof and sidewalk.

Our little friend from San Diego writes that the robins and waxwings put pepper-seeds in the water-troughs. He says, "The birds must bring them a good ways, as there are no pepper trees near the troughs." If he watches this winter, he will notice that just before the robins come to drink, they are in the pepper trees, and of course, when they drink, they spit out the seeds, as they have no use for them.

One would think they might stop long enough to eat their meals properly, and reject the kernels in the first place; but if you try tasting the pepper-berries for yourselves, you will see that the meat is on the outside of the shell, instead of being within the shell, like a nut. And the sweet meat sticks to the pepper-seed, so the bird must swallow it to soak it off. There is always a good reason for what birds are doing, if one can only get at it.

Everywhere the robin goes he carries his cheerful song with him, and you may sometimes imagine a flock are holding a low conversation with each other. Their red breasts and black heads make our lawns very beautiful of a January morning, before the angleworms have gone back into the ground. Up all night, and out to get a breath of air, these earthworms have left little roadways all over the top of the ground, especially if it happened to rain in the night. Angleworms are like water-birds; they like a little of the water, but too much of it would drown them. Robins seem to know all about this, so they, too, are out bright and early to look over the situation.

Always, in any country, the robin and the angleworm are bosom friends. We do not know another bird on such intimate terms with the bare, smooth angleworms. The mockers will not touch them.

Robins are supposed to listen to the worms when they are about their business below the lawn, and the poor little fellows are snapped up before they see daylight. If indeed they do see anything! However, an earthworm has some privileges the robin has not, be his breast ever so red.

If a robin snatches at a worm, and the worm resists,—as who would not?—the robin and the worm part company somewhere. Usually it is in the middle of the worm. Robin swallows his share, and the worm's own share of himself disappears deep in the ground, out of sight and hearing. By and by his wounds heal, and he is a good fat worm again, as long as any other worm, and as good eating.

Should robin lose both pieces of a worm that is bitten in two, there will be two worms in due time, able to come out on a wet night and look around. Should the two meet, they will not recognize each other as having been just one worm some time back. Robin will eat them both in good time, if they don't watch out.

But robin has his turn at bad luck. Chipmunk, who loves fresh eggs for breakfast better than he loves anything else in the world, keeps one eye on a pair of robins at nesting-time. He sees them getting mud and sticks, and he laughs in his sleeve. He knows what they are getting mud and sticks for. And he knows just when the eggs are all laid. Some bright morning, when robins' backs are turned, the eggs will disappear.

This little red rascal with a striped back loves

young robins almost as well as fresh eggs, and in his walks about the woods he listens. Chipmunk gets very hungry,—almost as hungry as a boy when school is out,—and who can blame him for eating the first thing he comes across?

But chipmunk takes not all the robins, any more than robin takes all the angleworms and grasshoppers and garden fruits. Enough young robins are left in the nests for another year; and late in the fall and winter the old robins and the old chipmunks may be seen talking over their troubles while they sun themselves on a forest log.

We place food all about our grounds for the robins. They like bread and butter, and cake and pie. Water sweetened with molasses is their delight, when once they have found it out.

Birds are like other sensible people,—they do not jump at conclusions. If you put out a dish of food for them which they have never seen before, they pass it by with a glance, or sample it with great care. They want to be quite sure it is good eating. And the birds watch one another at table! If a robin sees a sparrow or a mocker eating a new sort of food, it takes right hold itself, as if it had been used to such a dish all its life.

It seems as though the same robins come back

to our garden-table each winter, for they go straight to the place where they ate their last breakfast, as if they remembered.

Farmers think they "remember," too, and they accuse the robins of stealing things. They do not stop to think that every young robin is fed its own weight in insects every day it lives. And most of these insects are enemies of the farmers' crops.



SONG-SPARROWS.

THE SONG-SPARROW.



YOU would know the song-sparrow by its voice anywhere, just as you know the members of your own family who speak in the next room. They are among our sweetest singers. True, the song is never long, but it is hearty and full of cheer. You like to hear it on a foggy morning or in the drip of the rain. If something has troubled you, and you are too sad to see any of your other friends, you welcome the song-sparrow, and listen to what he has to say.

He sings wherever the notion takes him,—on the ground, in a shrub, on a log spread out flat in the sunshine, on the rim of the water-dish you so kindly keep for him in the garden. He sings at his meals, between mouthfuls, before daylight, after dark, at high noon, and we have heard his note in the night, as if, like many

REFERENCE TOPICS.

Pampas plumes: natives
of what country?

Uses?

another bird, he were talking in his sleep. Even his chirp is not unmusical.

While his mate is patiently sitting upon her four or five speckled eggs, the singer seems never to quit his song. He remains near her, as if the sound of his voice would cheer her up. And when once the eggs have hatched, the two old birds are seen always together, pecking in the mulching beneath the trees, scratching in the dead leaves, or hunting amid the foliage of low shrubs. All the time they are hunting for food for their little ones, they keep up that constant chatter, as if it were the happiest thing in the world to be obliged to scratch for a living. Always their tails stick straight up, very much like the tail of a wren. And they have a way of jerking their tails in a sociable way, as if it helped on the conversation.

We have the song-sparrows always with us, in summer and winter. You see them in pairs the year round, not in flocks. They love the great bunches of pampas-grass so common in the gardens of California. As you walk past the waving grasses, there is a rustle and a chirp, and out flies a song-sparrow. And they love the closely clipped hedges as well. We have found more nests in the pampas-grass and the hedges, than

anywhere else. It is dark and sheltered here, and the birds have a way of creeping into places nobody else would think of. And their nests are always dark in color, suiting the shadows where they are placed. The base is of grasses or little twigs, but the inside is lined very thickly with black horsehair. We have got into the habit of picking up the combings when the horse is groomed, all the year round, and tying it about low tree-limbs or sticking it in the cracks of the woodshed. Song-sparrow finds it in due time. We have had light bay horses, but combings from these the sparrows never choose. They leave the red hairs for the linnets, who build where the sun shines, more than in the shadows. Light colors are not so readily seen in the bright light as in darker places. And it would never do for the song-sparrows to build their nests in plain sight. They place them too low. So they have their own way of hiding them. Sometimes they nest in our bamboo thickets. When the young are half-fledged, they slip out of the nest and slide down the smooth bamboo stalks to the close growth below, where they are safe from cats and other enemies.

The way they have of slipping out of the nest before they are able to fly gets them into many

troubles. We have found a baby song-sparrow hanging to the nest by one toe, quite unable to help itself out of the difficulty. Horsehair makes good stout ropes, and can be depended upon to hold onto when the bird gets its toes tangled up in it. This does not often happen. Once, when it did happen, the old birds fed the young one until it was grown, the poor prisoner not being able to get away. We saw the parents taking food to the bamboo long after we had seen the young ones fly out. By careful search we found the prisoned bird and cut the hair that held it.

The sparrows eat almost anything, from tender shoots of plants and soft buds to insects of many sorts, and even to cooked food. We always keep something out for them. We sometimes think they have the sense of smell, for they will find a slice of bread and butter, hidden anywhere in the garden, almost as soon as we are out of their way.

No need of always making crumbs for the birds; they like good fat slices as well as anybody does. And their strong beaks seem made on purpose for breaking up crusts. Our farmers make a mistake sometimes when they think the sparrows are eating up their grain. They are more often hunting the weevils that eat holes in the grain, and other insects that like the nutty

taste of wheat and barley. When we get into a habit of thinking evil of anybody, it is hard to quit. Farmers have fallen into the habit of thinking evil of the sparrows and of calling them hard names. But the birds keep on doing a good turn for those same farmers, and waiting until they are better understood.

A person who spends his time finding out things about birds watched a pair of sparrows a whole day, just to be sure they are useful birds. He counted carefully, and discovered that the old birds fed exactly forty grubs an hour to the young ones in the nest. Now, what are grubs, that sparrows should hunt forty of them an hour for baby-food? They are the young of beetles. We have many harmful beetles, that do much mischief to our trees and vegetables. Their young ones are wrapped up in little bundles, and live for a while in the moist ground under the trees, where the mulching is loose and rich. We call these young beetles "grubs." It is these fat little grubs the song-sparrows are after when you see them scratching and pecking away in the shade after you have irrigated the orchard. If you watch closely, you will see the birds pick up more than a mouthful, and the little insects will drop out of the corners of the birds' beaks.

Song-sparrows seem never to know when they have a beakful. We have seen them go on picking up the same grubs that have fallen out of their mouths over and over again. And we laugh, as who could help it!

Our song-sparrows nest two or three times, from April to July. Then comes a sorry time for the old birds. They begin their yearly molt. They seem to know how droll they look, and keep well out of sight in the bushes. When they venture out for food, you will notice how ragged their feathers are, and how half-dressed they appear. Still, they chirp cheerily, as if sure of a new suit in good time. And when the new suit is all done, some time in September, it will be all dots and dashes, like buttons, and lace edging, and brown and white ribbons.

The song-sparrow seems fitted to be a school-house-bird, because it is always on hand when school keeps. A pile of tree-cuttings under the window, and branches of any bush or shrub, would make just the shelter they love. The sparrows do not slip under boards or behind boxes and barrels when they are startled. They like *partial* shelter like the twigs, so they may see out between the sticks and foliage and look around without being seen themselves. You might try

sowing lettuce-seeds in the loosened ground before you place the pile of twigs. You could sprinkle through the boughs in summer and keep the place moist, so the lettuce could grow. A row of children could sit around this "sparrow's corner" and study their ways.

THE BELTED KINGFISHER.



THIS beautiful bird is called the king of the fishers. It is resident in all California. It may be seen around inland streams, especially mill-races, and along the sea-coast. Its head seems to be much too large for its body. But the kingfisher has use for its head, as the woodpecker has good use for his. The woodpecker's head is his hammer for driving his beak into the trees. The head of the kingfisher drives its beak into the water for the fish upon which it lives. The bill of the kingfisher is its pike, with which it captures its food. It is the bird's spear, and it goes straight to the unlucky fish sporting in the water. And the kingfisher's

REFERENCE TOPICS.

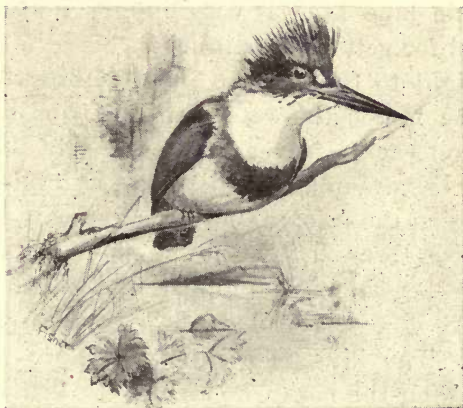
Reason for disgorgement.

Habits of fishes.

Cruelty of stringing fish alive.

eye is as sharp and strong as its beak, for it is able to see its food through dark and muddy water, as well as in the clearest streams.

In no other way can the kingfisher get a living but by fishing. You may be out for a walk, with eyes and ears open, and you will see the fisher sitting silently on the limb of a tree by the edge of the water. He does not stir a feather. He



THE BELTED KINGFISHER.

scarcely blinks his eyes. He might be a stuffed bird set up on a bough. Suddenly, quicker than your eye can follow, he darts straight into the water, head foremost.

Now, if the king had a head like a thrush or a warbler, he would make a failure at fishing. But his strong, thick skull follows the tip of his beak

wherever it goes, and when next you see him, a fish lies crosswise in his mouth. The fish struggles to get away. It has neither beak nor claws to fight its own battles, and can only squirm helplessly. You are sorry for the fish, who has its own good times, free in the water; but you know the little blue king is very hungry, and must be excused for getting his dinner in his own fashion.

Straight to the tree he just left flies the king, and you notice the water runs off from his sleek head and back. Never a bit wet gets the kingfisher. His plumage is thick and well oiled.

Once on the tree, the fisherman beats his fish against a branch, as the phœbe-bird and the mocker beat the grasshopper and the butterfly. We call it a "natural death" for both fish and insect. The king is certainly a more merciful fisher than the man who strings his fish and carries them about until they die by slow degrees. When the fish lies limp across his beak, the fisher gives it a toss, and down it goes, whole, by way of the bird's thick neck. Later, the bones will come up in hard little pellets.

A kingfisher always manages to dive straight down into the water, never at a slant. He may be obliged to fly out a little way to do so, but he comes down straight. We suppose this is to avoid

making a shadow on the water. Fish are quick and shy. They are afraid of a shadow. You may see this for yourselves by walking along the bank where minnows are sunning themselves in the clear water. If you are between the fish and the sun, your shadow will frighten the fish, and they will scurry under the nearest rock. If you approach from the other bank, you do not disturb them.

If the kingfisher is a king, then his wife must be a queen, though she goes by her mate's name, just as a pair of phœbes are each known by the name of Phœbe.

Both birds take a hand at the nest-building, or rather at the nest-digging. They select a suitable place on the face of a clay or sandy bank, and dig with their beaks. Here they make good use of their large, heavy heads again. As they dig, they push the loose earth out and down behind them. If you have the good luck to come on a pair at work, you will see the dirt rattling down the cliff side. One bird digs until it is tired, and then its mate lends a hand, or we should say a beak. In this way a tunnel six or eight feet long is made in the earth wall. Just how long, it is hard to say. It is safe to say it is some longer than a boy's arm, as the boy will find

out should he attempt to measure it with the intention to steal the eggs or young ones. The boy will hardly reach the nest-chamber, but he will go far enough to wish he had n't tried. Kingfishers often line their tunnels and the nest-chambers with bones and things they have swallowed, which their stomachs have no use for. Of course, these things decay, and make a very unpleasant odor, as well as disagreeable stuff to handle.

The kingfishers dig their tunnels sloping upward, so the rain from above, soaking down through the soil, will run out and not drown the young birds. When the tunnel is long enough, the mother lays as many eggs as the space at the end will hold,—there may be six or eight,—and here the birdlings are hatched, quite naked. They are fed on the best fish to be caught, and grow rapidly. In a few days they get their first coats of feathers. Most swimming and diving birds have a coat of down all their lives, under their outside feathers. It keeps them warm.

Kingfishers are said to keep the same nesting-place for years, where they are not disturbed. Of course, they must have a house-cleaning at times, else the tunnels would get filled with litter. As to this, we need not bother ourselves, for the kingfishers know their own business.

Should the young birds be taken from the dark, snug nest, they will creep into any hole, as the baby woodpeckers do,—up your sleeve, into your shoes, under a board, or into a crack. However, it is no easy matter to get the young. The old birds will tumble along the ground, and make believe they are drowning in the edge of the water, until they have taken you far from the nest, when they will suddenly fly away with that loud, rattling scream of theirs. This loud scream is the only song of the kingfishers, even in their courting days. They probably think it is musical.

They are said to be fond of slow, solemn music. Sailors make it for them, the birds sitting in the ship's rigging, looking gravely down on the deck and listening. Sailors and fishermen tame the birds by tossing fish to them. The kingfishers return at the same hour each day, either to the sea-beach or the boat's side, just as our garden-birds return for their meals to the table we set for them.

In some parts of England, the country people have a strange sort of weather-cock in their houses. They skin a kingfisher and stuff the skin with spices, leaving it to dry in the sun. Then they tie it by its beak to the rafter overhead, in their humble homes, so it can turn freely about. They

say the breast of the bird always turns to meet the wind. Of course, any bird stuffed and dried, and hung by its beak to the rafter, would turn breast to the wind. It is on the same principle that your windmill set up on the woodshed turns face to the wind.

THE CALIFORNIA JAY.



EVERYBODY is acquainted with the blue jay, and a jay of a fellow he is. When you meet a man that is sly, cunning, inquisitive about matters that do not concern him, that man is called a "jay." He is like the blue jay.

This bird is neither shrike, nor crow, nor woodpecker, and yet he is like each of them in many ways. But he is more like himself than anybody else. In spite of all we shall have to say against him, we are very fond of him. Let anybody who lives on the edge of the woods take to studying these strange birds, and they will get both profit and pleasure. And the more one finds out about the jay, the more will he learn about some other birds and little creatures.

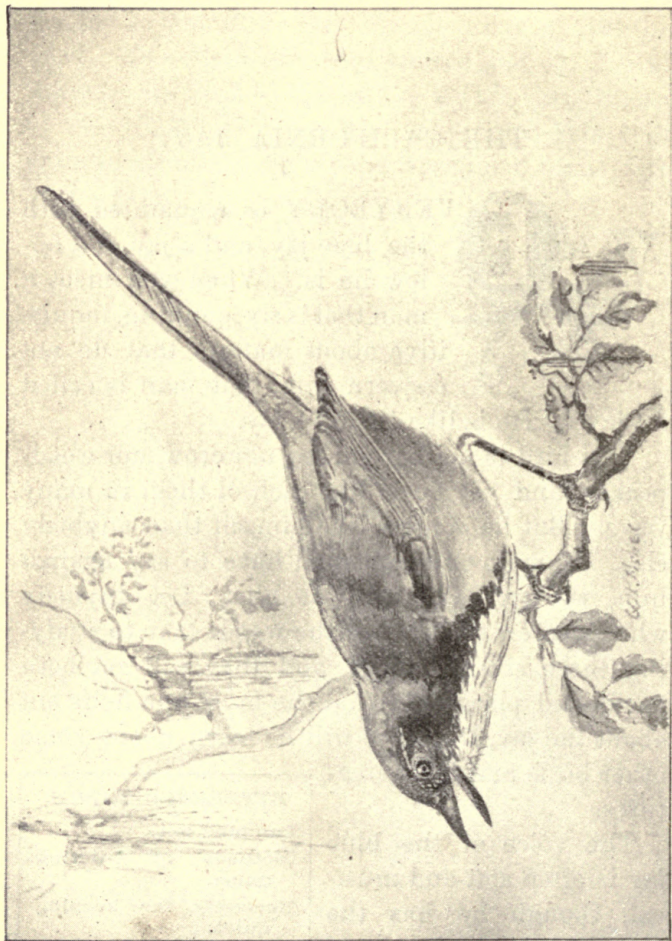
The voice of the blue jay is often soft and musical, though he has the name of being harsh of

REFERENCE TOPICS.

Camping out.

Methods of hunting game.

Necessity for keeping quiet.



THE CALIFORNIA JAY.



tone. The fact is, he can be both harsh and tender, as the mood strikes him. He may shriek like a hawk, or whine like a little hurt bird. He loves to mimic all the other birds in distress, and often sets up quite a panic among them.

On account of his voice, the blue jay is not liked by the hunters. The moment the hunter comes in sight, blue jay gives the alarm. It is of no use for the hunter to think he can slip along through the trees and not be heard or seen. Jay has a sharp eye and ear. He is the policeman, and the fire-bell, and the signal-whistle, and the alarm clock, and the "call to arms." A lone man with a gun is creeping through the brush. Jay gives a cry of "Look out there! Danger ahead and all around!" Instantly the towhees, and road-runners and quail slip under the bushes and lie as still as mice; while the finches, and wrens, and warblers seek the cover of thick-topped trees.

No one in sight but the blue jay, who sits on his tree and looks innocently at the hunter! Of course, the hunter takes a good aim at the telltale, but he does n't hit him once in a dozen times. Blue jay knows the muzzle of a gun from the butt of it, and which way the two point; and he is up and off before the hunter can pull the trigger. Back goes the disappointed hunter to camp, with

no bird for breakfast, so he sits down to canned codfish or chipped beef. Ten to one, the jay is there before him, hidden in the tree above his head, and waiting for the crumbs. Blue jays are very fond of the company of hunters. There are scraps of food always about the camp.

It is a fact that when in camp the average hunter does not shoot at the jay. He likes to have the bird about in the lonely woods for company. These curious birds are seen to slip under the flap of the tent and carry off crackers, or meat, or cheese. And one jay was seen to steal the mush from the kettle while it was cooking, nor did it seem to burn its mouth. Sometimes they take things they have no use for, and hide them, as if from pure mischief.

It may not be all in kindness to the birds that the jay warns them of an intruder. The fact is, he likes to have the smaller birds about him to supply his needs. Jay likes eggs, and how could his market be supplied without the birds? No one knows just how many eggs the jay eats for his breakfast, unless it be himself. Probably he destroys as many as he eats. The helpless spurred towhee stands by and lifts its beautiful wings and pleads with blue jay to leave "just one"; but to no purpose. When he is done, he flies away,

leaving the pretty fragments all over the ground. You may see them when you are taking a walk in the woods, and wonder how they came there.

In justice to blue jay, we should say that he is no worse than the rest of us who like birds' eggs for breakfast. The difference is, we take eggs from the nest of a big tame bird we call "hen," and cook them. Jay takes his eggs from smaller birds, and eats them uncooked.

The birds that have been robbed usually have time to make another nest, and lay more eggs before winter; and they have better luck, let us hope. Most of our birds do nest several times in a season to make up for losses, you see. Sly little chipmunk evens up matters with the jay when he comes across a jay's nest in a tree. He, too, likes eggs for breakfast.

When nesting season is over, and there are no more eggs for eating, chipmunk, and gray squirrel, and blue jay turn farmers for the public good. These three friends of the Golden State plant more seeds in a year than a hundred men could plant in twice the time. And they do not ask a penny of wages for their trouble. They simply want a good time when the fruit and grain are ripe. It is as if they say to our farmers, "If you will let us have some of your crops,—just our

little share, you know,—we will see that the mountains that were burned bare last year are all replanted.” And they do set to work in good earnest.

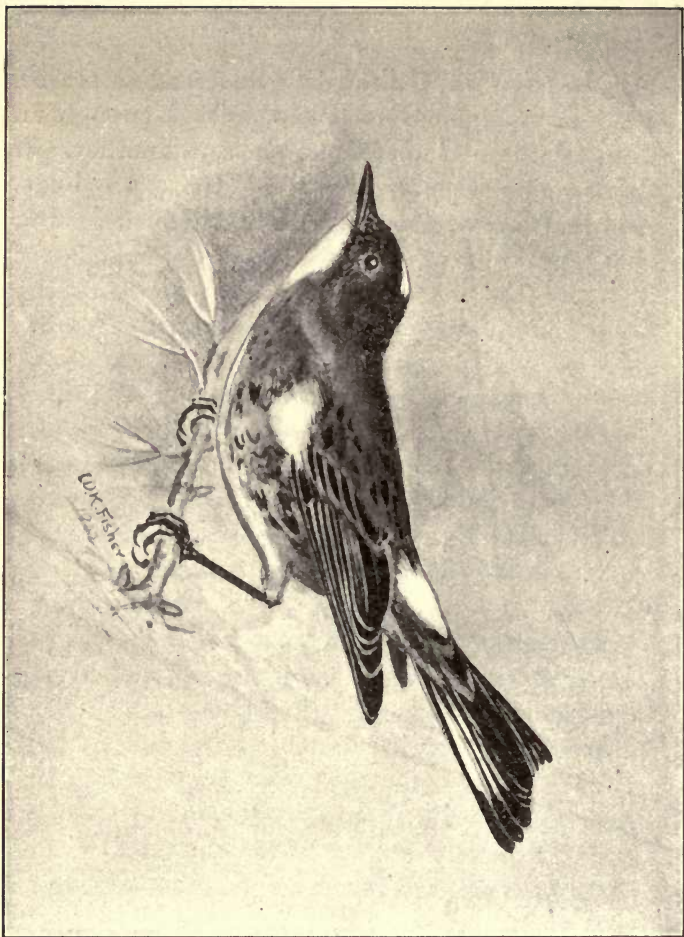
Two blue jays have been seen to dig holes and plant, firmly and well, fifty acorns and other forest nuts in less than one hour.

Blue jay watches from his tree when chipmunk and squirrel are doing the planting, and as soon as their backs are turned, he scampers to the place and digs the seeds and nuts all up. Then he plants them over again to his own liking, in another place. In this way do our birds and little animals keep the forest-ground plowed and raked and planted, and we should thank them, one and all.

Blue jay does a good turn for the farmer in eating as many grasshoppers as he can stow away. When he has had his fill, he spends whole days chugging more grasshoppers into holes and cracks for his future use. We suppose it is for his future use! But it is doubtful if he ever see his savings again. It is more from his natural love of hiding things, that he stores away anything. Surely, the nuts and seeds planted by him are never half eaten.

True, he might have need of them, were there

long seasons in California when food is scarce. But our wild birds may always find enough in their travels,—if not in one place, in another. If there are no seeds on the trees, there are buds. And buds are as good as seeds to the birds.



ALDER'S WARBLER.

AUDUBON'S WARBLER.



SOMETIMES this beautiful bird is called the Western yellowrump, on account of the bright yellow patch just above the tail. You will notice it when the bird is flying. Like many another songster, Audubon's warbler must be observed both in flight and at rest, would you be certain as to its true colors. And the time of year makes a little difference. In the spring, the yellows and blacks are clearer and brighter in the male. It is one of the largest of all the warbler family, and we have it everywhere in California in winter-time.

It is fearless, coming and going with its cheerful chirp, making the dulllest day full of sunbeams. It is up before you, and while you are at breakfast, looks for its own meal on the wire screen outside your window.

REFERENCE TOPICS.

Hibernation of insects.
Scale insects on fruit-trees.
Spraying and poisons.
Lady-bugs.
Mallow "cheeses."

Yesterday it was warmer, and the house-flies thought spring had come, and they forgot to go to bed in the woodshed or barn loft. So the warblers catch them napping on a cold morning on the house-screens. The flies are so chilled, they do not feel the cold nor the snap of the bird's beaks.

This very morning, a couple of warblers are snatching flies from the windows, holding to the wire with one foot, while they stop to look about them. Bang they go to another wire screen! We sometimes leave the window up in the afternoon on purpose for the flies to feel the warmth from the inside. So we tempt them to remain all night. Warblers cannot live without meat.

People are often puzzled when they see the warblers flying against the screens. We are often asked, "What is the name of those little birds that try so hard to get in the window every morning?"

Sometimes our cold spell lasts a long while, and the flies are numb in their hiding-places. Then warbler has his wits about him, and shows you what a good hunter he is. There are loose shingles on the roofs, and shrunken timbers about the gables. Here is just where spiders, and flies, and moths are hiding themselves, intending

to come out when the weather gets warmer. And there are eggs too,—spiders' eggs, done up in nice packages, waiting for the warm days of spring to hatch them out. Warbler darts along, at home always on his clinging toes, and peeps into every secret nook, pecking with his sharp beak, and bringing out the hideaways against their will.

The tin spouting under the eaves is his greatest delight. Leaves, and summer dust, and litter from everywhere have blown into the roof-gutters, and have not yet been washed out by the rains. Indeed, no rain is able to wash them quite away; it simply packs the litter into a nice warm bed for insects that like to be covered up this way. Nature is very kind and motherly! She covers up her children. Warbler, thinking only of his appetite, goes along, now on foot and now on wing, and chirps while he finds out things.

When the eaves, and spouting, and window-screens have been inquired into, away goes the investigator to the orchard. Of course we left those yellow persimmons and rosy apples on the top boughs on purpose for the birds. Warbler spies them, and clings in his usual fashion, with one set of toes, while he looks at the landscape

around him. He bites again and again, nor does the last taste pucker his mouth. He knows better than to take puckery persimmon rind. To be sure, he did tear off a bit at first, but if you were watching, you would see him toss it away, and peck out the soft ripe inner part, exactly as you do yourself. Birds do not eat fruit rinds. Their beaks are made on purpose to tear holes in tough skins, as well as to crack seeds and hard-shelled beetles.

You sometimes wonder why the birds do not finish eating a fig or a peach or a persimmon before they bite another. The truth is, they do eat their fill at first and fly away. No sooner are their backs turned, than along come the honey-bees, who fly in California the whole year. Now, the bee cannot tear open the skin of any fruit. Its tongue is made to sip with, not to dig or bite. So the bees smell the juice of the fruit the birds have left, and take possession, sipping all around the edges, as you may see. When the birds return to the tree, they pick a fresh fruit, and in a moment they leave that one for the bees. You will not see birds and bees eating the same peach or fig at the same time.

When warbler is done with his persimmon, he flies to the alfalfa-patch and swings on the winter

seed-stems. The weeds have grown since last fall's mowing, and gone to nothing but wrinkles and empty seed-pods. The seed-pods are gaping open, making snug little hiding-places for insects.

Warbler turns somersaults, pecking into these tiny rifts and wrinkles for the insects.

Then you may catch him eating the belated "cheeses" of the mallow which every Californian child has tasted for himself. From the cheeses he goes to the banana stalks. The wilted edges of last year's leaves are keeping insects warm, and he hunts them out. He hunts in the narrow leaves of the carnations for lice folk. And then he flies to the tall blue-gum trees and makes a supper on the tender white stamens of the blossoms. Audubon's warblers are fond of sweet preserves from our table. We fed them many a saucer of quince last winter, and there is more in the cellar for this winter. Indeed, it is seldom that a jar of preserves is opened at our house, that a good portion is not set out for the birds.

Audubon's warblers are friends of the Californian farmer. This very morning, we saw a couple of them take the black scale from a pepper-bough that hung over the path, lifting the dark shells very carefully to get at the point. Under the black shells or scales are eggs, and

young insects, and old ones, all of which are good eating for warblers. We examined the branch when the birds had taken their leave, and not a single live scale was left.

If the birds of winter were better understood, the ranchers of California would welcome them. Many of the titmouses, as well as these warblers, live occasionally upon the scales that infest the orange trees.

Audubon's warblers are sometimes seen with the blackbirds on the ground in corrals and barnyards. The blackbirds disturb grubs and other good things which the warblers love to get hold of. In fact, the warblers are always on the lookout for things to be disturbed. An old house was being torn down. The shingles and the boarding were decayed, and they parted at the touch of the workman's hammer. The hammer dropped, and the workman went down the ladder to get it. In his short absence, as if they had been on the watch for the opportunity, the warblers took possession of the torn roof and feasted on insects. The man stood on the lower rung of the ladder and watched the hurried breakfast.

Though their feet are not formed for long walks, these birds are often on the ground; always, however, with wings atilt, ready to snatch the nearest gnat in the air.

They are commonly gentle among themselves; but we have seen them "scrap" in the early morning. They would whirl on wing, grapple, and fall. Once on the ground, they closed in with beak and claw until exhausted. And there



YOUNG YELLOW WARBLER.

they lay, panting, limp on their backs, looking as angry as a pair of little bantams; only bantams never do turn over on their backs. Just as we were sure we had them, away they flew to the cornice, where they preened their ruffled coats and looked as if the climate did n't agree with them.

We have this beautiful bird in California from September to April, when it goes north to nest.

It does not fear to build near homes, though it frequently chooses a site far from habitations. The nest is large and firmly made, usually set on the branch of a tree six or ten feet from the ground. It is said to be very handsome, with its twigs and everlasting-weed, and hairs and root-lets. The eggs are usually four, greenish white, with dots and dashes of red, brown, or lavender. The old birds are said to share the habit of many parent birds, in dragging themselves along the ground and making believe they are wounded when the nest is approached. After all, it may be but little loss to us that these warblers do not live with us the year round, as we now have them in winter, when many other birds have left us. And they are among the most pleasing of all the birds. Their habits are an interesting study. What we owe to their sharp little black beaks and toes, nobody can quite tell. Without these birds, our best trees might be ruined by the beetle folk which live between the bark and the wood, burrowing long tunnels in which to have a good time of their own. Note how warbler runs up and down, peeping under the loose bark, clinging to dead little stems, and "pecking at nothing," as far as we may see. But he knows his own trade full well, and his ear is as sharp as his eye. He

can hear a beetle sawing away at its business beneath the tree bark as easily as you hear a knock on your door. As to the song of Audubon's warbler, it is short and pleasing, though rather weak. Perhaps the bird is too eager to snatch flies in midair, to quite finish any song it begins.

THE MOCKING-BIRD.



THE MOCKING-BIRD is called the prince of Californian birds. He *is* rather lordly, and some think him a tyrant. He scolds when he has to, but more to hear his own voice than to harm any one. He likes to "look cross" at the other birds and see them dodge into the bushes. He does n't usually "mean anything" by it; for they come out of their hiding-places and eat from the same tree or bush or garden-table with that selfsame mocker that scolded them.

As soon as his little fit of temper is over, away

REFERENCE TOPICS.

Cats as enemies of young birds.

How cats catch their prey.

Why lizards drop their tails when caught.

"Glass-snakes."

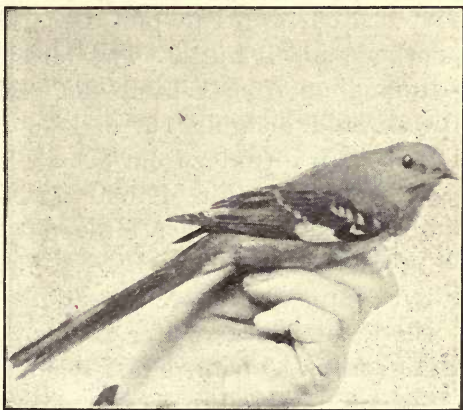
Horned toads.

Climate as affecting distribution of animals.

flies the mocker to the chimney top and makes apologies in his sweetest notes to all the birds he scolded so. And if a dog or cat or hawk puts in an appearance, he is the first to give the alarm, following the enemy, without fear for

his own safety. Dogs and cats sometimes make believe they do not care for the mocker, but really they do hate him more than any bird. He is more than a match for them.

We know of a pet house-cat whose back was made very sore by repeated attacks of the mockers whose nest was in the vine above the door.



MOCKING-BIRD.

If the cat ventured out by daylight, though ever so slyly, the parent mockers flew at him with such cunning rage, that he sought the first cover in sight. One bird attacked the cat on one side, while its mate slipped up on the other and gave a pull at the fur. In due time, the cat, with a

very sore back, concluded it was no match for the mockers, and was satisfied to lick its milk under the kitchen-table with just a glance out of doors.

You will notice that most dogs run in a cowardly fashion from a mocker, as if four feet and a wide-open mouth were no match for a pair of wings and a beak that can close very suddenly over a pinch of hair.

We have had our own hair pulled many a time by the mockers, and it hurts. The birds have a way of slipping up from behind one, giving the hair a tweak, and dodging out of reach. They never do attack an intruder from before.

Perhaps it is on account of their watchfulness about the grounds, that other birds put up with so much scolding from the mockers. They seem to love their company, and are sure to nest in any garden where the mockers live. The young of other birds are not molested nor scolded by the mockers, even in their crossdest moods, and for this reason, if for no other, we love them. To be sure, if a linnet brings her young ones to the garden-table before mother mocker has fed her own little ones as much gingerbread as they can swallow, mocker says, "Go away!" in pretty loud tones. But she never harms her neighbors' children.

In the spring you may track the mockers to any bush or tree in which they are building their nest. Not by the print of their feet in mud, by any means, for mockers do not walk in the mud, nor have anything to do with mud at nesting-time, like the robins and swallows. We track them by the white twine they drop from their beaks as they go to the nest. If they get a piece too long, it tangles in the shrubbery, and is left there. The mocker's nest is begun with sticks or coarse straws and finished with twine or soft roots and grasses. We place strings all about for them in our garden, which they learn to expect. But we cannot induce them to take colored twine. They will use only white, just as the towhee will use only white rags. The reason for this is explained in the chapter on the towhee.

Two pairs of mockers have nested in our grounds for several years. They are with us summer and winter; in winter, because we do not forget to set the garden-table.

Young mockers will not remain in the nest longer than they can see over the brim. They climb out, and drop in a helpless way to the ground. Then they begin to cry, and that tells all the cats and bad boys and the good little girls in the neighborhood. The cats catch what

they deserve if we see them in our garden; as for the boys, we try to teach them better, or take up their attention some way until the good little



YOUNG MOCKING-BIRD.

girls have a chance to pick up the crying young birds.

Young birds can be trusted to the girls and *some* boys. You can place them up in a tangled shrub, never back in the nest, for they will tumble right out again. The best way is to keep an eye on the little things by day, and put them out of reach at night, in your own house perhaps.

Young mockers get their feathers very early, and are soon able to keep out of harm's way.

However, more are lost every year than live to grow up.

Some people grudge the mockers the berries they eat, but we plant a whole row on purpose for them and other birds. Raspberries are good food for young birds, and a pair of our mockers bring up their children on them every spring. It may not put money in our pockets to plant a row of berries for the birds, but it puts food in the birds' mouths and makes a sociable time. One can but laugh to see the parent birds fly up and bring down the tip of a swaying branch of berries and hold it while the little birds peck off the fruit. While one laughs at the birds, one may get the idea that money in one's pocket is no better than a kind thought in one's mind.

We are well paid for these little attentions to the mocker's family. We are treated to free concerts almost every night in the year. By day, he sings, as well, but he spends some of his time in listening to the other birds, so he may surprise them with a rehearsal of their own songs at midnight.

The song of the mocking-bird is a mimic of all the sweet songs he hears, but he does not forget to go over the droll sounds which have little music in them. The chickens and turkeys may

wake you crying in the treetop, and you may catch the sound of a squeaking wheelbarrow, or the postman's whistle, or even a young rooster just learning his first crow. A bird in our garden has learned to mimic the graphophone very well, giving the metallic ring.

Of course, this nightly serenade annoys nervous people who want to sleep, and they say harsh things about the bird, behind his back. But mocker goes on with his songs, just as if everybody spoke well of him. If he thinks about the matter at all, he may conclude that a person might as well go on with his duty and pleasure without stopping to care what other folks think of him.

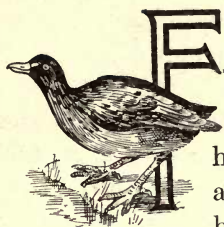
The food of the mocking-birds is mostly insects. They are expert fly-catchers, and will take a butterfly on the wing or a grasshopper on the jump quicker than a wink. They hunt for grubs *under* the trees, and for fruit *in* the trees. They get up early in the morning before our great, striped Jerusalem crickets have gone back into their holes. It is of no use for cricket to turn over on his back when he sees a mocker coming along; he may strike out his six legs and toes in a very savage manner, after the custom of sand-crickets, but he cannot frighten the mocker.

Mocking-birds are fond of crickets' claws. They are also fond of lizards' tails. Indeed, lizards grow several new tails during the summer on purpose for the mockers to eat. Lizard is chased by a bird, and runs under the nearest log, forgetting to take his tail in after him. The tip of that nice tail just sticking from under the log is all the cunning bird was after, anyway, and off it goes into its beak. Not that mocker pulls it off. O no! The lizard lets go of its tail when it feels a pinch, as if to say, "Take it if you want it." Lizard does n't mind the loss, and in the course of a month his new tail-tip will be ready for another supper for the mocker or the robin.

Our little friend from San Diego writes that the mockers watch for the new milk to be brought in at night, and he sets a cupful up on a post for them. They drink it with as much relish as a kitten. *We* have also fed them milk, but they like it best with sugar in it. All the birds we feed have a "sweet tooth." The way to any bird's heart is by his little stomach, and any child or person may have the mockers near the house if they will but feed them well. To be sure, our mocking-birds are not seen around San Francisco Bay, for reasons of their own, which we do not understand. Birds are much like people who

prefer certain parts of the country to live in. And they do not always explain their reasons. They leave many things for us to find out. Who will find out the reason why mocking-birds do not like to live around San Francisco Bay? But everywhere in the southern and interior parts of the state they are common.

THE AMERICAN COOT.

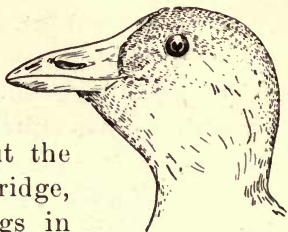


FEW people call this interesting bird by its correct name. It has been dubbed "mud-hen" for so long, that we forget it has another and better name to answer to. However, it seems to have earned the name for itself by its preference for muddy places. Another name by which the bird is known is crow-duck. It is nearly as black as a crow when seen in the shadows of a swamp, and it swims like a duck when on a pond. But you may see the difference between a mud-hen and a duck by looking at the feet of both. The coot is not web-footed in the same fashion as the duck and the goose. Each toe is separately webbed. Little short scallops of web run around the whole length of each long toe. This is sufficient web to aid the bird in swimming, but does not prevent its being a good walker as well.

REFERENCE TOPICS.

Canvasback duck.
Wild ducks as game.
Feet of swimming birds.
Other marsh-birds.

Web-footed birds cannot run rapidly; they "just waddle," as you know well enough by watching the ducks in your yard. But the mud-hen runs like a partridge, and she takes to her legs in preference to flying or swimming,



COOT, OR MUD-HEN.

if you surprise her in the marshes, where she loves to spend her time. The marsh is her home, her children's nursery, her "native land."

On our coast, the coot nests in April and May. The nests are usually floating rafts in the reeds or on the water's edge.

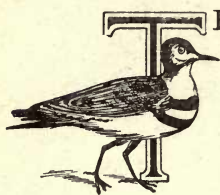
Sometimes large settlements of coots take up a low, boggy marsh and rear their families. The bottom of the nest is of reeds and sticks, which mother coot breaks with her beak and lays criss-cross. The platform or bottom of the raft-nest is strong and thick. As the work goes on, the nest is hollowed into shape, and the reeds and grasses are woven snugly together. Sometimes a nest is placed in the protection of reeds or willow-stems, so that it must remain in one place, like any bird's nest. Sometimes it is placed on the water and moored or fastened to long reeds or tules bent over. In this case the young coots are born

in a house-boat. "When the wind blows, the cradle will rock," and rise and fall, with mother coot sitting calmly on her treasure. Once a nest was seen to break from its moorings and float off with mother mud-hen still on it. It was as if she had no other thought than to stay with her children. And of children she has a plenty! She lays as many eggs as your own biddy hen lays in the hay-mow. The eggs are shaped like hen's eggs, but are muddy white, dotted or splashed with brown. As soon as the young are hatched, they are ready for a swim, and away they go with the mother, leaving the house-boat to take care of itself, and to tell the boys exactly where to find next year's coots. The young are very beautiful in their thick coats of black down penciled with bright orange. Their beaks are red, tipped with black. They soon learn to hunt on their own account for slugs and snails, and to catch little skaters and water-spiders in the margin of the marsh. It is this habit of finding the most of their food in mud and fresh-water marsh-ground that has given the coot the popular name of mud-hen. No matter if it is a rooster, we call it mud-hen, exactly as we call the phœbe-bird "Phœbe," be it male or female, old or young.

Should you get very hungry out hunting, and

come across a good fat mud-hen, you need not be afraid to cook it for supper. Still, most people prefer other birds for eating. A hunter who brought in a brace of coots would wish they were duck; though, at times, when it eats mostly watercress and wild celery, a mud-hen is declared to be "just as good as canvasback."

KILLDEER PLOVER.



THESE birds named themselves, as many other birds have done, by their loud call of "Killdeer, killdeer!" Would they keep still, and not talk about themselves so much, they would escape many a hunter's game-bag. But "Killdeer, killdeer!" comes from all around, and so the birds give themselves away. Game-birds should learn a lesson of the hunters, who do not keep calling to one another all the time.

This plover is fond of fresh water, and is not seen on the sea-coast with its cousins, the snowy plovers. It loves damp meadows and inland ponds and marshes. The killdeer has long, slender legs which carry it through the marsh-grass or the alfalfa-fields. They look very droll, as if they were "holding up their skirts" for fear of wetting them in the dew.

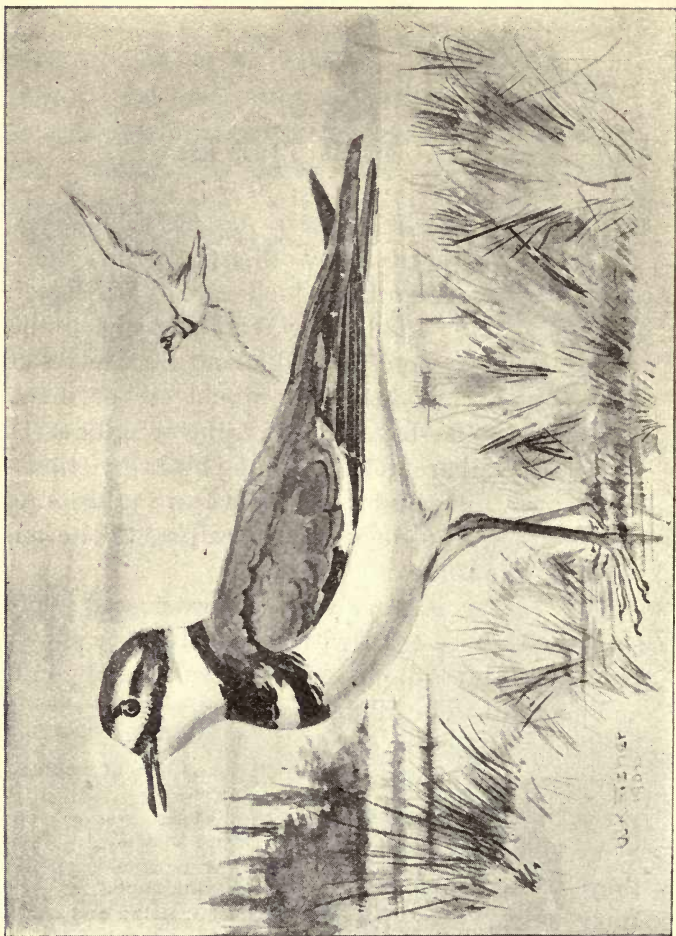
REFERENCE TOPICS.

Feet and legs of wading birds.

Precocious young of some birds.

Feigning lameness in nesting-time.

Alfalfa raising and curing.



KILLDEERS.

If you find their feeding-grounds, and sit perfectly still in the early morning, you may have the killdeer come very close to you. One could watch them a long while every day, and not grow tired. You will not see them in large flocks, but in family groups or pairs.

The food of this plover is small animals, such as snails, and slugs, and water-bugs, and worms, —in fact, any little insect or other animal that lives in moist ground. They have a queer way of listening with their beaks when the creatures they wish to eat are underground. Little nerves run down into the tip of the bill, so that it is sensitive. When a killdeer wants to find out if a worm is anywhere within hearing, it rests its beak lightly on the ground, as if listening. It is able to follow the sound it hears, and the beak goes straight to the worm or insect.

If the bird is uncertain as to any food being in the ground beneath her, she has an original way of stamping her foot as hard as she can, when up comes the object she is after. On this account, certain plovers are sometimes called "stampers." Why any creature comes up to the surface of the ground when killdeer stamps its foot, nobody knows. Perhaps it is from the wish to be hospitable, as when a person answers a knock at the door.

The nest of the killdeer is very simple. It is only a little depression in the ground, like a saucer.

These birds like old driftwood and shore rubbish. There are many insects which killdeers love to hunt in old wood of any kind.

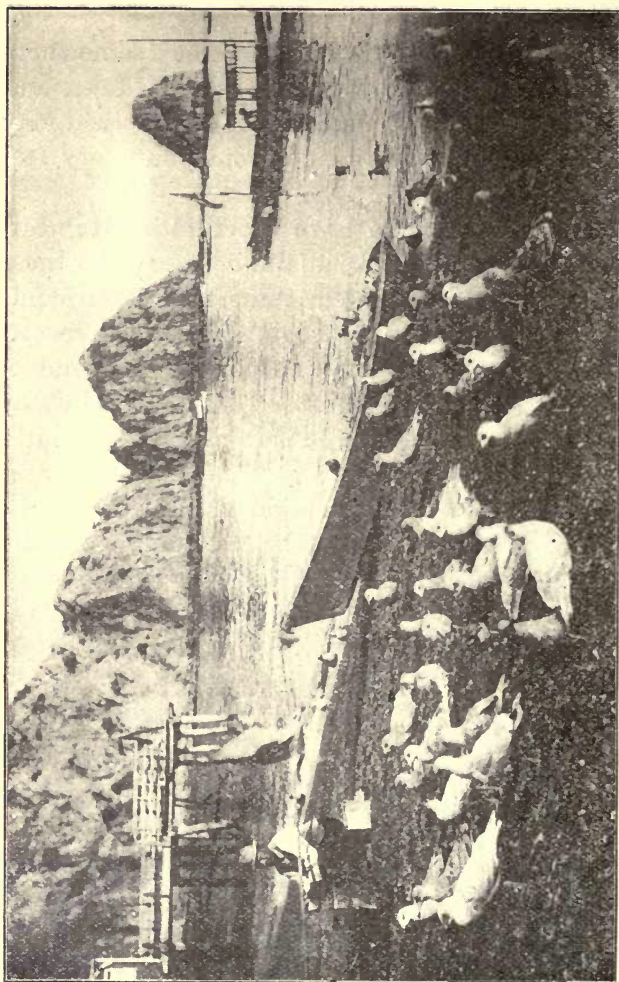
The eggs are three, creamy white, dotted with brown. The very day they are out of the shell, the young birds are ready for a run along the watercourses or the irrigating-ditches. They are covered with thick down, the color of the ground, so it is not easy for a person to catch sight of them. If you come near one of them, it will spread itself flat on the ground and keep still. Suddenly, you may see the old mother killdeer a rod away. She seems to be having a "fit" of some sort. She flutters and drags her wings on the ground, or holds one wing above her back, as if in distress. She also cries and pants as if wounded.

No one can find it in his heart to harm a wounded bird, so, of course, you will stoop to "pick up the poor thing," thinking you may be "able to do something for her"—when off she goes. Then you laugh at yourself! And you wander back to the place where you first saw her, and you hunt the ground all over for the young

killdeer which you are sure must be "somewhere round." The best thing to do is to sit down and keep as still as a mouse. After a while you may see the little bird spring up from your very feet and scamper off.

Our farmers like to have the killdeer live nearby, especially if there be alfalfa-fields. After these fields have been irrigated, these bird farm-hands attend to their business of thinning out the insects and snails. Why should not killdeer be fond of snails, when they are considered a great dainty by some of our own people in Europe and some parts of America?

On account of this mention of our friends the snails, you will probably take a second look at the next one you see.



GULLS WAITING TO BE FED.

THE WESTERN GULL.



THIS is our common Californian gull, our own familiar bird, which the law says "you shall not kill!" just as it says "you shall not kill the turkey-buzzard."

The two birds are similar in one respect: they are public benefactors. They seldom catch and kill their own food. Because it is their business to "clean up after other folks," they are protected at all times of the year.

Our sea-gulls are always on the watch for a "job in the cleaning-up business." But you must not think for a moment that they are doing this work for our sakes, or because they care a straw whether or not any place looks tidy. They are thinking of their own hunger, and the quickest way of satisfying it after their own fashion. When the sea goes away from the

REFERENCE TOPICS.

Scavengers.
Ocean breakers.
Fish-seining.
Oily feathers of water-birds.
Oil-sacs and preening.

beach in the morning, it always leaves its crumbs on the shore,—little shell-fish, and broken bits of anything, including, now and then, fragments of somebody's lunch, tossed the evening before into the water.

So, the early morning is your best time to watch the gulls. Go and sit stock-still by a boat or heap of sand, and you will not be noticed by the birds. Along will come the gulls before it is broad daylight, to pick up their breakfast. They are beautiful and graceful on the white sands, pecking as they go, now and then flying out into the surf to snatch some tidbit that is being washed away.

The gulls are always spotlessly clean, their lovely white heads glistening with the sea-water bath. They like to perch on the little boats anchored in the bay.

You toss them a piece of bread, and they watch for another. Gulls have learned that nobody harms them; and they are tame, expecting food of strangers. They are said to be very fond of cheese, and have been known to return day after day to a place where they have received this choice morsel.

Where farms come close down to the sea, the gulls are known to follow the plow, and to snatch

the worms from the furrow close to the plowman's heels. This is one of the few birds our farmers have no dislike for.

They are not birds of long flight, but always may be seen along shore and in harbors. They love to visit ships and dine with the ship's crew. Sailors are very fond of them when in port, and entice the confiding birds as visitors.

Gulls seem very fond of the society of fishermen, on account of what their nets contain. They watch for the return of the boats at day-break, walking impatiently up and down the sand, and flying out to meet them when the boats come in sight.

When the fishermen drag out their nets from the boat's bottom, and begin to dress their catch for the markets, it is then you should watch the gulls! They will snatch food almost from the hands of the men, and by the time the fish is all cleaned, the parts to be thrown away have disappeared.

We stood on the beach at sunrise and tossed bits of fish to the gulls. They had already breakfasted and were sluggish from overeating; but the sight of further supplies made them wish they had room for more.

One great, handsome bird came near and

watched the bit of fish as we tossed it out. It fell on the sand. The gull pushed it out into the water, but kept an eye on it. Just as it was going out with the tide, the gull ran in and brought it back. It dropped it on the sand and then pushed it down so the fingers of the tide could just reach it. Then the bird ran in after it again. The bird kept up this apparent sport for a long while, and others joined the play. They accepted several pieces of fish which we gave them, and amused themselves until the morsels were worn and torn into little shreds. This sport of the gulls was very interesting, and since then we have often given them scraps of food to play with.

It is only when the fishermen bring in their night's catch, however, that gulls seem to have more than enough of anything to eat.

Of course, gull-flesh is not very good for eating; still, some of the sea-beach people who live far from market do use the birds for food, and declare the meat "better than nothing." It has the blending of fish-and-flesh flavor, not to one's liking.

Our Western gull nests on the Santa Barbara and Farallone islands, and at Catalina they have taken possession of a large rock in the surf,

which nobody else cares for. It is called Gull Rock.

The eggs are three, placed on the bare rock or ground. Parent gulls have a shrill, harsh cry at nesting-time. This cry is answered by a whine from the young ones. Young gulls do not get their full plumage until they are two or three years of age, but are dusky brown all over. On this account, when you are watching a number of gulls on the beach, you may think some of them are another sort of bird.

Notice how lightly the gulls swim on the water! Almost the whole bird is in sight, while many other water-fowl swim with only the neck above the surface. This is because their feathers are very thick and the body very small. Really, gulls are more than half plumage. This makes them so light of weight, they sit, just touching the water, riding in their own boat.

It is a pretty sight to see the gulls floating around the pier close to the bobbing buoys. They are watching for the cracker you are eating, ready to snatch it when you drop it; and no doubt they are watching the fish beneath them, having a good time of their own, just out of reach of the gulls, who are no divers.

Should an honest old pelican happen along on

its way home, with a fish hanging out of its mouth, and accidentally pass a gull, the gull would most likely steal the fish. Old pelican would have to go fishing again. But that is his business. It is gull's business to get fish wherever fish may be found out of deep water.

DIFFERENT SPARROWS.



THE fox-sparrow, the white-crowned sparrow, and the golden-crowned sparrow are winter visitants in California. They appear early in October, and leave us in April, or earlier.

The fox-sparrow is so named on account of its foxy-red upper plumage. It is a very beautiful bird, and comes now and then to our garden-table with the other sparrows; but it is more shy. Some winters we see but two or three. It has a shorter and stouter bill than the other sparrows, and larger, stronger feet. It nests far north in Alaska, or in our highest mountains. Its habits are much like those of all its comrade sparrows. The song is very sweet, and, once heard, will not be forgotten. We never see the young birds of the fox-sparrows nor of the crowned sparrows. They

REFERENCE TOPICS.

Migration of birds.

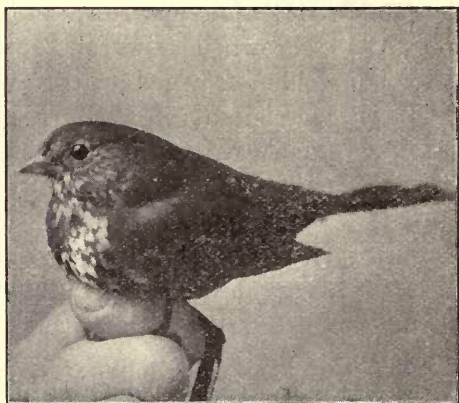
Origin of English sparrow.

Introduction of animals into new countries.

Rabbits in Australia.

are born and grow up in the far north, and are in full plumage when we first see them.

The golden-crowns are not so numerous as the white-crowns, but always we have a few of them.



THE FOX-SPARROW.

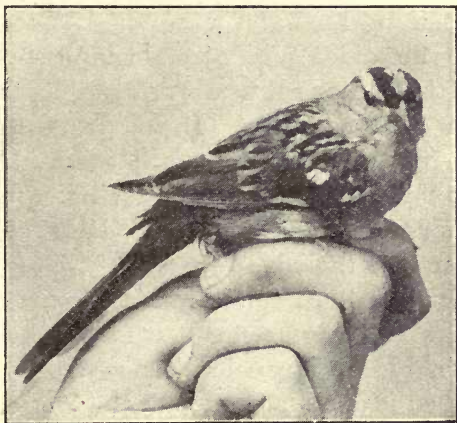
They do not sing so constantly with us as the white-crowns.

The fox-sparrow and the golden-crowns do not appear in large flocks, as do the white-crowns.

Of all the winter sparrows that come to us, we love the white-crowns best. Some autumn morning in the garden, before the sun is well out of his bed, we hear a sweet song, just five or six

notes, and we cry, "The white-crowns are here!" But there is only one. The main flock is on the way.

With most of our migratory birds, single individ-



WHITE-CROWNED SPARROW.

uals appear ahead of the rest,—for what purpose we do not know. You will notice this with the sparrows, and orioles, and bluebirds, and robins.

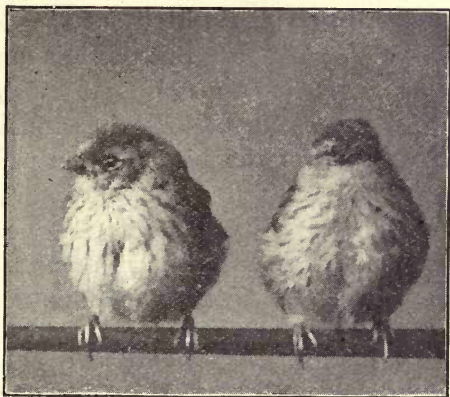
Perhaps it is two or three days before the first flock of white-crowns are seen. Then there is a sudden, glad song everywhere, and you feel like staying out of school just to look and listen. It would seem as if these birds are glad the long

journey is over and they are home again for the winter.

This year (1902) the white-crowns arrived in southern California, September 25th. The scout who came on ahead went straight to the garden-table, as if he knew he would find it ready set. And so he did. We were looking for him! Always the white-crowns are fearless, and may be seen on our door-steps. If you leave the door open in the morning, they will come in. They will look you in the face and sing. They are said to sing all night in Alaska. Here, of course, we never hear their best songs.

The crowned sparrows make their nests in the frosty grass in the far north, a few inches above the eternal ice on the cold meadows. Even there insect food is abundant, though the warm sun of summer does not thaw the ground many inches beneath the surface. Beetles and other insects wake up like their Eskimo neighbors, and come out to see the daylight. It is then that the sparrows get them. Besides the insects, there are fruits and seeds for sparrow-food. Last year's cranberries are just thawing out of the mossy meadows when the sparrows arrive from California some time in April or May. These berries are all the sweeter for their long winter under the

snow. Sparrows take their fill, and no doubt get their faces stained with the red juices, just as they stain their yellow lips with the molasses we set out on the table for them here.



YOUNG CHIPPING SPARROWS.

Yes, we feed black molasses to our sparrows, and it is a droll sight to see them try to eat it at first. They cannot pick it up like crumbs, nor drink it like water. But they soon learn how to eat it in their own fashion. It sticks to their beaks and faces until they have dipped their heads in the water-dish.

Sparrows have a way of washing their faces after meals, as any one may see. Watch and see them

dip first the beak and the face and whole head in the water and shake it off until all the table is well sprinkled.

You cannot enjoy the winter sparrows without a garden-table. A schoolhouse window-shelf would do for them, placed high out of reach, but in sight from the inside. But there is danger of our turning the schoolhouse into an aviary if we go on. Better place the table in the grounds, and respect the rights of the birds to that particular corner.

There is one sparrow that has not yet come farther south in California than Fresno. We do not want to see him. Still, should he come, we will try to make the best of it. It will be of no use to object to his company! It will do no good to start out to "kill him off!" When he comes, he will come to stay. That is the English sparrow.

Scarcely any one had a good word to say for the English sparrows, until it was discovered that they were fond of the seventeen-year locusts. Then the farmers began to praise them. Their good appetites were talked about as if they were virtues, and the boys quit robbing their nests. But the locusts were soon gone, and the farmers have forgotten what they owe the sparrows. So the birds are persecuted again.



It does no good to any one for a person to "hate" any bird. Hate makes the heart hard, and before you know it, you will be hating other birds than the English sparrow. To make the best of a bad bargain, and to turn the little English sparrow to some account in the world, let us "eat him all up." In this way we should come to love him in spite of ourselves. But by no cruel methods, mind! Give him a quick short cut to the Land of Nowhere, and all will be well. We are something like sparrows ourselves; we think we must have our meat! And sparrow, roasted, broiled, or stewed, is a dish for a king. It is just the diet for sick people and babies. Little children who do not take kindly to other food thrive on sparrow broth and eggs.

Sparrow's eggs! Why, you can coax a sparrow-hen to lay right along, just like any biddy-hen in the barn-yard.

You must quit scaring the birds to the high roof gables and out-of-reach places. Place straws about the balconies and door and window sills, and watch what happens. The sparrows will take to egg-laying for all summer long, and stay right in one place. You can gather the eggs every day, always leaving a nest-egg, and the mother bird will supply the home market. You can

easily see that by this method there will be very few young birds, and the sparrows will become more domesticated year by year.

The custom of driving them into distant and high places to nest is all wrong. We had a friend in the East who made a beautiful portière, or curtain, for her parlor, of English sparrow's eggs. They were blown, and strung on silk cord.

The children of the city streets who have so little space for home, and see the dark side of every-day life, could get both profit and pleasure from the sparrows. City hospitals could convert their high window-ledges into little farm-yards for the benefit and pleasure of the sick. One could have eggs for breakfast by just opening the window. Foundling hospitals could be supplied with the most nourishing food for the little orphans. It would be better for school children to see that such provisions are made, than to be stoning the sparrows for nothing but hate.

"Since man must live, man must eat," and we may eat the English sparrows. But see that we do it with a thought of their good qualities, and a regret that they are not better neighbors to other birds.

THE BANK-SWALLOW.



THE air is their home, as the water is the home of the fishes. True, you may now and then surprise them in the act of taking a sun-bath on the beach; and if you are quick enough and still enough, you may see them helping themselves to the sand-flies and hoppers, and such folk, that are out for the selfsame purpose of taking a sun-bath. You will not see the swallows running after these things, but they snatch them while lying on the sand. Excepting when taking this sun-bath, it is doubtful if the bank-swallows are ever seen on the ground.

The flight of these birds of the air is extremely rapid. They can keep well abreast of a fast express train; and no wonder the common people used to tell curious stories of the way they spend the winter. Not being able to see the swallows in their

REFERENCE TOPICS.

Hibernation of animals.

Why most insect-eating birds migrate.

How cliffs and high banks are formed.

flight, so high and so fast, it was told of them that they spent the winter under the ice, at the bottom of ponds and streams, with the snapping turtle and the eels. Again, it was rumored that they crept into rat-holes or away down to the bottom of hollow trees, where they hibernated like the bears, and slept the winter away.

It is well known now that swallows migrate to a warmer clime at the approach of winter. As they travel they do not stop for meals. They feast upon such delicacies as come in their airy way. The beak of the swallow is a scoop made on purpose to catch flies; and so these insects, that are having a good time in the upper air, never know what brings them so suddenly to the end of their career.

At nesting-time you may see the bank-swallows soaring above the steep banks, selecting a suitable location for their summer work. Flying slowly beneath the crest of the bank, they tap the earth to ascertain the best spot to commence in. Down tumble little stones and sand, splashing right into the surf, or dropping on the heads of strollers along the beach. Supporting themselves by their wings, they dig with their claws straight into the bank, at a slightly upward slant, like the kingfishers. When the tunnel is two or three

feet in length, they make a little chamber in which to lay their eggs.

When a swallow is approaching its hole in the bank, you will notice it folds its wings and darts right in without so much as touching foot on its own door-step. At the end of the passageway in the little nursery-chamber, just out of reach of a boy's arm, the little swallows grow, and gradually learn to run down the long lane and peep out of the door. It is now that the crow, the hungry rascal that he is, is observed to keep strict watch. Many a child swallow is met at the open door with a very tragic ending of its short life.

Perhaps you think the young swallows stand a good chance of tumbling off from their door-steps into the river. But such a catastrophe never occurs. A baby swallow's wings are developed very soon, and the little bird is much at home in the air on his first flight, as any one may see by watching a colony of nesting-holes, only you would have some difficulty in recognizing the young from their parents, for they look just alike.

The twittering of the swallows is musical, though they have no real song. They are a blessing to all mankind, for they never take our fruit or grain, living entirely upon insect-life, and of course taking many harmful species.

Once a hungry hunter, who had found bad luck in place of game, came upon a colony of swallows, and thought he would breakfast on swallow fry, or stew, or pie.

He shot a number, and thought they looked good eating, lying limp in his hand, suggestive of blackbird or sparrow or quail on toast. The breakfast smelled all right, cooking in the camp-skillet, and the hunter smacked his lips after the manner of hunters when they are hungry. Alas! at the first mouthful he turned the contents of the frying-pan into the fire. The taste of the flesh resembled that of the turkey-buzzard, as near as his imagination could help him out. What else could a person expect of a bird which eats only insects? As well cook a crow or a blue jay.

THE CLIFF-SWALLOW.



WHILE the bank-swallow is too shy to be often seen about our homes, the cliff-swallow is fond of human company. It is as fond of our large cities as of our country homes. It was never known to do an injury to any one. It is the true friend of our horses and other stock, eating large numbers of the flies that torture them. And they eat, also, the insects that sting our fruit trees. They are kind and loving to each other and tenderly care for their own family. If any of their folks are in trouble, they all lend a hand.

The note of the cliff-swallow is a genial sound, pleasant to hear at nesting-time. While they are chatting as they fly, you can hear their bills snapping up the insects in their way.

In the old days, before we built houses in every part of the land, the cliff-swallows made their bottle-shaped nests on the sides of rocks; but they now pre-

REFERENCE TOPICS.

How bricks are made.
Clay-modelling.

fer the house-eaves which we offer them. Sometimes they build under bridges.

It is a pretty sight when you come upon the swallows fluttering above the mud-puddles after a rain, or following the water-wagon about the streets for the leakage that collects in little uneven places of the road. See how they work up the mud into pellets, partly swallowing as many as they can carry at one load. By looking closely at the nests, you see they are just a collection of these little pellets of dried mud. It is really artistic skill in clay-modeling. It is supposed that the early natives of our Western coast, watching the swallows and phœbes at their nest-building, got the idea of making mud into bricks and so building adobe houses.

You will notice that some of the nests have little balconies or verandas on the sides. Now, it was supposed the birds made these on purpose for a resting-place when coming to the nest, or for the young to find safe footing on; but we have watched the swallows a long time, and are sure these little verandas are never made on purpose. As the nest progresses, now and then a layer or bunch of pellets weakens and falls. Sometimes these fall to the ground, and often they only tip over and adhere to the rest of the nest in that

shape. The old birds continue building above the broken bits, and when the nest is finished, it has the appearance of an adobe with porches.

When a colony of swallows has taken possession of a barn-loft, or the side of a barn, under the eaves, it seems as though all take a hand in the building, no particular pair at any certain nest. But when nearly finished, a single female takes possession and lays her eggs.

We have not seen the eggs left alone for a single moment. When either bird is off the nest, the mate takes its place. If a colony be disturbed, all the birds fly anxiously about, snapping their beaks and begging to be left in peace. The swallows took possession of a phoebe's nest, last year, under our barn-eaves. In this same nest the linnets had reared two broods.

Some people object to having swallows about their homes, but we love them. A little fresh paint will make the side of a stable look as good as new, and one can endure the untidy appearance for just a few weeks for the fun there is in watching the birds. Nothing is more interesting on a warm day than to lie on one's back on the hay-mow and watch the swallows. Lacking the hay-mow, one can lie in a hammock or on the grass and watch a colony on the north side of the

barn. The birds soon come to know you will not harm them, and pay no attention to you, even though you are very close to them.

There is a harmless superstition among the country people in some parts of the world, that "if you are good to the swallows, the lightning will never strike your barn."

A good story is told of a farmer who thought to frighten the swallows away from his barn by hanging a dead owl to the rafter, where it swung in the wind. What should they do, but place the very first pellet of mud they brought in right on the head of the owl! And they kept on with the nest until one egg was laid, when nest, egg, and old bird swung in the wind. The farmer thought it such a curiosity, that he took the stuffed owl with the nest on its head and gave it to a great museum, so that other people could admire it. Then he put a sea-shell in its place in the barn, swinging it by strings put through little holes he had drilled in the edges of the shell, and tied it to the same rafter. The swallows built another nest right in the shell and brought out their brood. What interesting things a person can find out who loves the birds and has the patience to study them!

THE CEDAR WAXWING.



HE is really a waxwing, wherever he goes, but he has other names. When he is dining on cherries, he is the cherry-bird. When he is breakfasting on cedar-berries, he is the cedar-bird. The fact is, when a waxwing is at the farmer's fruit, his wax tips are forgotten or overlooked. These wax tips are a puzzle to men who study birds all their lives. They are not wax, for they do not melt in the sun nor crack in the frost. But they look just like wax. Thin waxen tips are on the wing-quills. The yellow band on the end of the tail, and the red on the wings, distinguish these birds from all others. No one knows the use of these waxen tips, so we conclude they are for ornament only. They shine when the bird is flying, or when it is atilt in the trees.

REFERENCE TOPICS.

How wild plant seeds
are scattered.

Pepper trees.

How mistletoe grows.

Camels on the desert.

Birds injured by wires.

Unlike the orioles, the waxwings always come to us in flocks, usually with the robins in winter. They appear suddenly in the pepper trees or the sycamores. Pepper-berries and mistletoe-berries make a midwinter feast for the waxwings. The waxwings share the robins' ways of throwing up the seeds after a meal on these berries. Pepper trees are seen growing in distant mountain washes, where never any man planted the seeds. This is the work of the waxwings.

The robins and waxwings seem firm friends, and wander about together, as merry as can be. The real cause of their friendship lies in the food which they share together. Their tastes are similar.

Waxwings are birds of long flight. There is a common belief that the waxwing gathers a supply of food in its lunch-basket or crop, and carries it on long journeys, digesting it at need, as the camel is known to carry a supply of water for its desert journey. This may be only a story, as we are not certain about it.

We manage to have food ready for the winter birds in our grounds. If we give the raspberries a late summer watering, they will bear berries in midwinter,—not a large crop, to be sure, but enough for the waxwings. It is great fun to see

the birds chatter about those berries, and bend the canes to the ground, where they hold them until the stem is robbed of all the ripe fruit.

Always a fearless bird, the waxwings learn to be very tame with us, where they are sure of kind treatment and plenty to eat. We suppose our readers will begin to think we do little else but feed the birds, and you may more than suspect that we are eaten out of house and home by the feathered visitors. The truth is, it takes only an idle moment to place food in the way of the birds; and it does n't take so very much food as you may imagine to satisfy all our friends. In return, we have song, and a good many things to think about,—better than idle thought.

The waxwings' language is an endless chatter about the things they see on their journeys. True, the farmers are not particularly fond of them or their chatter. Would they take the time to find out, they would know that the waxwings eat only many harmful worms, moths, and flies during two or three months in the year. As they are always hungry, it takes a good many caterpillars to each meal. Though, come to think of it, a waxwing does n't have regular meals. Most of its time seems to be meal-time.

Probably our robins and waxwings nest in the

same localities farther north. As mates, the waxwings are very much attached to each other. Once a bird was taken captive, and its mate refused to leave it, allowing itself to be caught, that it might be with the one it loved so much. A young one fell from its nest in a storm, and was taken into the house to be cared for until it should recover. The parent birds fed it between the cage-bars, as we have known the mockers and orioles to do.

You may know if a waxwing is happy or miserable by the way it wears its crest. If happy and free, it lifts this beautiful black crest, and if in confinement or otherwise unhappy, it keeps it depressed.

Waxwings nest in trees or bushes. The eggs are four to six, slate or olive color splashed with browns. The parent birds do not tell a stranger where the nest is placed, as so many of our birds do, but are said to keep very quiet, scarcely whispering to each other during the whole period of nesting.

We have taken wounded waxwings into the house in winter and nursed them until well again and able to fly away with their folks. Waxwings fly swiftly, and are so busy admiring the country, perhaps, that they do not see our telegraph wires

until they fly straight against them. The shock stuns them, and they fall. We pick them up, and by keeping them a few days, they recover. During this short time we have had them grow to be very tame, taking food from our hands. When given their freedom, they send us a parting glance and are up and away.

THE ROAD-RUNNER.



THIS name describes his character. And he has several other names, which describe him equally as well as "road-runner." He is called ground-cuckoo, chaparral-cock, and snake-killer. He will answer to either name if you have the luck to find him at home in some desolate arroyo through which a narrow road winds among the stones and cacti.

Probably the bird will see you before you catch sight of it, and take to its legs. You think you will catch up with it, and you will run at the top of your speed. As well try to overtake an ostrich. Were you on a good saddle-horse, you would make little better pace. As it runs on ahead of you, the

strange bird keeps a keen eye behind him. Nature has left a spot bare of feathers all around the road-runner's eyes on purpose that it may see behind it.

REFERENCE TOPICS.

How arroyos are formed.

Habits of lizards, and where they live.

How ostriches run.

If you are close enough to him, you will notice that his wings are very short indeed. What need has he of wings, with such legs? And his feet! They are large and strong enough to run all day. But notice his tail particularly. It is very long.



THE ROAD-RUNNER.

As the bird runs he holds his tail straight out behind, not touching the ground with the tip of it, very much as his neighbor fox holds his brush when he is on the run. If you stop suddenly and hide in the bushes, road-runner thinks you are gone for good, and he concludes to slow up. It is now that he makes use of his long tail. Up it goes like a sail in the wind, and so, maybe, helps its owner to come to a sudden standstill.

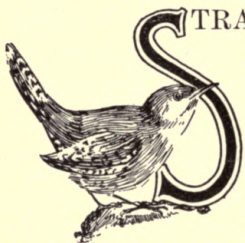
Road-runner wears a beautiful crest on his head, and as he stands on tiptoe a few rods ahead of you in that desolate cañon road, you think him the finest bird you have ever seen. You would rather catch him than get home in time for supper. But it takes a genius to catch a road-runner. They have been caught, however, and tamed. In homes that are built on the road-runner's border-land, the bird has been seen in chicken-houses, hunting spiders among the roosts. It eats like a chicken and nests like a hen, and lays nearly as many white eggs.

There is no telling how many eggs a hen road-runner does lay for a setting, for in the same nest are found fresh eggs and young birds just ready for their first run. The nests are coarse, like biddy hen's, in low bushes just above the ground. What cares mother road-runner if a snake makes up its mind to pay her a visit, and ask how it fares with her large family? She is a match for any snake, and stops not to ask questions when one is in her path. As for lizards, they are her delight. She comes upon one of these numerous neighbors of hers basking in the sun on an arroyo rock — and that identical lizard is never seen any more. The road-runner's long, strong beak was formed on purpose to capture snakes and lizards,

and to pry up stones under which snails and insects may be in hiding. But the bird takes fruit as well as meat, and frequents corners where the wild grape grows.

These strange birds are growing more and more scarce each year as we encroach on their hunting-grounds; and unless we teach them to trust us, none will be left by and by. Perhaps it would be well to place some of their eggs under our hens, to hatch out with the chickens. They are said to take kindly to the habits of our domestic fowls. A few running with our barn-yard flocks on the edge of the mountain washes might induce the wild road-runners to come and live with us. As they are good layers, we might develop a new breed of fowls! Only the eggs are small, and the birds themselves not pleasant-tasting.

OUR WESTERN WRENS.



STRANGERS who come to California often say, "Why don't you have the wrens here?"

We do have some twelve or fifteen sorts of wrens, all with the familiar features of the wren family,—chunky little body, stick-up tails, stout long toes, slightly curved beak. But none of our wrens has yet learned to nest about our homes, like the common Eastern wren.

Strangers coming here look out of their windows or stand on the balcony, and seeing no wrens

about the garden, conclude we do not have this confiding little bird.

If one would see our Western wrens, he must go to the wooded foothills, or cañons, or into the dreary arroyos and washes.

Many common birds that now nest and live

REFERENCE TOPICS.

Effects on animal life of cutting down forests and cultivating wild lands.

Structure of cactus; reasons for spines and dense cuticle.

Rattlesnakes, their poison-fangs and rattles.

Tule-marshes.

Eskimo igloos.

near human dwellings have learned to do so more from necessity than from choice. We have cultivated the meadows and hills, and cut down the forests, and cleared out the marshes, until the birds which once lived in these places were driven away. They were obliged to make our acquaintance and live with us, or be crowded into the sea or to the bleak mountains.

Our wrens have still their native wilds in the West, but by and by, when we have cultivated all the land, they will, no doubt, come and live with us and change their habits to suit. We shall have them in our woodsheds and balconies, and they will accept the little boxes we shall put up for their nests. Now and then we do see some of the wrens in our garden, in winter-time, searching about the trees and shrubbery with their cousins the titmice and chickadees and bush-tits. It seems as if they are looking the ground over to see how they will like it when the time comes for them to stay. We shall all be glad to see them, with their lively ways and pretty songs.

Perhaps the most interesting wren we have with us all the year round, in parts of the Southwest, is the cactus-wren. It is so named on account of its preference for the dry, desert-like arroyos and washes, where hardly any plant grows

save the bristly cactus. Here, with the rattlesnakes for companions, and plenty of tiny insects for food, the cactus-wren builds its nest and rears its family. It is well known that rattlesnakes are fond of young birds before they are out of the nest. Of course, after it is out of the nest and on the wing, any bird is more than a match for a snake.

Snake sees the parent wrens flitting about the brush after the insects, and he thinks to himself "There are no trees for you to build in, little birds; I will watch and see where you put your eggs." But the wrens trouble not themselves about snake and his breakfast. Nature has told them just how to keep their young from so sly an enemy.

Some time in March or April you may take a walk out into the mountain washes where the cactus grows, and watch for the wrens. If you keep still under cover of a scrub-oak or a big rock, you may see how the work is done, and how mother wren manages to get ahead of snake.

The nesting-material is grass and slender sticks and plant fibers. These are woven into a pouch not unlike a bush-tit's nest laid on its side. The nest is secured to the fork or branch of the low cactus. It is thickly lined with feathers. Then a long passageway like the entrance to an Es-

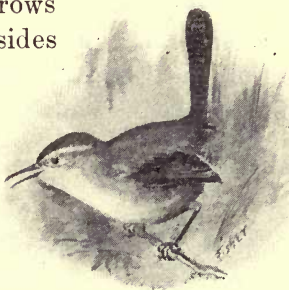
kimo's igloo is made to the nest, of the same grass and fiber. Wrens everywhere like shelter and hidden nooks.

Snake, no doubt, sees all this work going on, and he basks in the warm sun and thinks about it. Let him try to crawl up to poke his sly head into mother wren's affairs, and he will be sorry he attempted it. Cactus thorns and stickers seem made on purpose to keep snakes out of wrens' nests. And the rattlers find this out sooner or later.

In this nice, warm, safe nest, four or five little wrens are hatched, and grow up ready to take care of themselves before snake has shed his skin half a dozen times.

Like many of our birds, the cactus-wren manages to have the outside of her nest of one uniform color. We sometimes find them made of a delicate red weed that grows all over the barren hillsides and washes.

The Vigors wren is resident in the West, north and south. You will find it in the foothills and on the brushy mountain sides in summer, where it



VIGORS WREN.

nests in holes in trees, or in the ground. In winter it comes down to the valleys and mesas. They love the vicinity of half-decayed logs and thick undergrowth, where loose rubbish makes a good feeding-ground. The eggs are five or six, mottled white. They nest in April and May.

The song of the Vigors wren is very sweet and varied. On this account this bird is sometimes called the mocking-wren. But it is always their own songs they are singing. In winter-time they are very tame, allowing one to almost touch them, merely keeping at arm's-length away. This habit of being so fearless in winter-time is shared by many of our wrens and titmice. They are intent upon getting their food. This food consisting of very small insects, the bird's eye is supposed to be adjusted to short focus to see these insects, and are not suited to more distant and larger objects.

The Parkman wren is another of our resident birds. But it comes in sight more commonly in summer than in winter. On this account it is often called the summer wood-wren. It nests in hollow trees, anywhere from five to forty feet above the ground. As usual with the wrens, the nest is built of bark and fiber and grasses, with plenty of twigs for a basis, and the lining is thickly made of feathers. The nest is deep, with

narrow entrance, so that it seems almost impossible that the old bird can squeeze herself into it. Of course it is not easy for the little birds to get out, as they must, in some cases, climb many feet. It is supposed that the old birds help the young in getting out into the world when it is time. They may "boost" from behind, as the bluebirds are said to do, or they may build a ladder or foot-rest of twigs. If our mockers and towhees and other birds in the gardens would make such provision for keeping the young at home until they are ready to fly, there would not be so many falling out of the nest "before they are ripe." The eggs of the Parkman wren are five to nine, of a pinkish white color. Dr. Parkman, for whom the bird was named, found a nest in an old horse's skull that had been placed on top of a fence.

These wrens are said to be even now changing their habits to those of the Eastern house-wren; for they have been known to accept cigar-boxes nailed in a tree, and may even come to a house or barn in which snug little holes offer attractive nesting-places.

The wren family is so large in California, it would take a whole book to describe them and their ways. Children who care to study birds for

what pleasure and information they can get, will find the wrens very interesting. Especially if you live in secluded spots, in the foothills, or near marshes, you may have the wrens for company the year round. There is the tule-wren, which loves the swampy regions. You may find their globe-shaped nests in May, fastened among the upright stalks of rank grass or tules. They love to feed in damp weed-patches. But don't mistake the wrens for their relatives the titmice and warblers.

THE SHRIKE, OR BUTCHER-BIRD.



WE have a warm place in our hearts for the shrike. He is not so cruel as most people suppose. He is very beautiful in shape and color. At first glance, one might take him for the mocker. But you can easily see the difference. The throat of the shrike and the tips of all his tail-feathers are white. A dark stripe runs from the corners of his mouth through the eye and back on the neck. This stripe is called a "black bridle."

It is not a noisy bird, though it is known to scream harshly, once in a while. But it has an occasional sweet song. It is not seen often in our gardens. It seems to know that it is dreaded by other birds, and ordinarily keeps well away from them. They have little need to be so afraid of him, for he is not the butcher they take him for. To be sure, he does eat up a little bird,

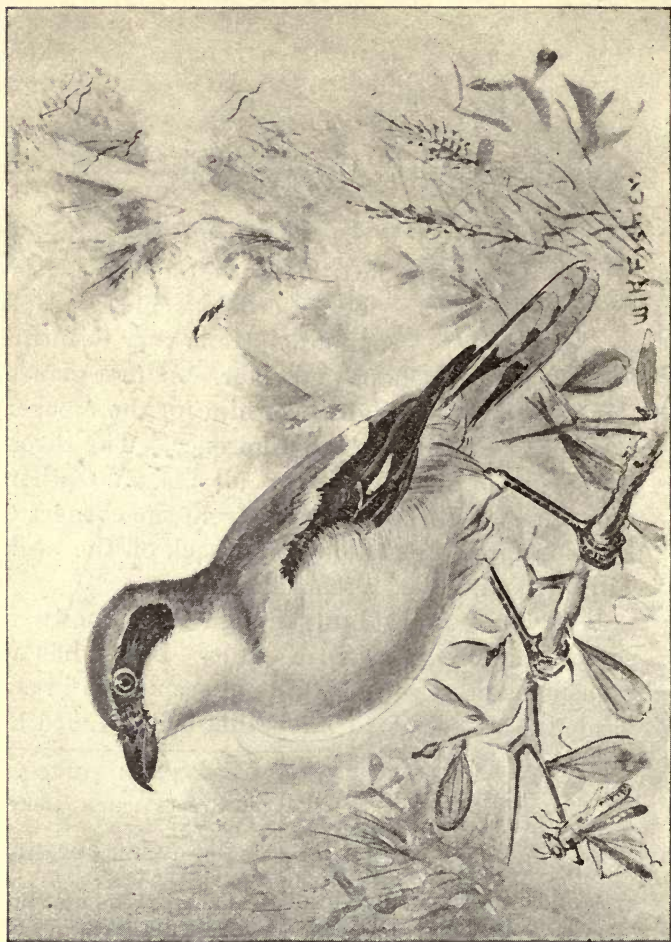
REFERENCE TOPICS.

How cats catch their prey.

Merciful killing of animals for food.

Animals that lay up stores for future use.

Insecticides.



THE SHRIKE, OR BUTCHER-BIRD.

now and then, when he can get nothing else; and he impales what he does not eat on some thorn. Probably the other birds have caught him at this naughty business a very few times, and "once detected, always suspected." They have never forgiven him.

So, perhaps, this butcher has come honestly by his name. But it is not so very bad to be a butcher! Let us learn some lessons from his merciful way of doing his work. The shrike kills its victim by a blow, or by impaling it on a thorn. In either case it is a quick death. Sometimes he kills it before hanging it. If he does hang it on a thorn before giving the fatal stroke, he impales it by the back of the skull or neck. There is no playing before killing, as with the common cat.

Why the shrike hangs its prey on thorns or weed-stalks or barbed-wire fences, no one knows. He seldom returns to eat it. You may find the little ghosts of grasshoppers and crickets and mice and other creatures swinging in the wind as dry as a bone. Indeed, they are often nothing but dry bones with just enough skin to hold the bones together. It is well known that tree-squirrels, and jays, and woodpeckers do not return and eat all the food they stow away in secret places. Perhaps all these little creatures have a vague idea

that there may be a famine, and they would do well to save something. It is a good idea.

Butcher-birds have been seen to catch gophers, and they are very partial to those great Jerusalem crickets which eat holes in the farmers' potatoes. Most farmers are on friendly terms with "Butchy." They have an idea that the bird eats more or less linnets, and the average farmer can endure the company of almost anything that makes war on the linnets. The linnets could tell him that not three times in a season does Butchy molest a linnet. Butchy prefers a lizard any day. And it is his greatest delight to chase butterflies. Farmer sees Butchy darting across the garden! The linnets fly to cover, and farmer chuckles. Butchy was n't after the birds at all, but that great red-and-black butterfly the farmer did not see.

When once any creature is picked up by the butcher-bird, it is of no use for it to squirm. Butchy is provided with a pretty good set of teeth for a bird. The tip of the beak is notched. These notches are called "teeth." They hold on to a gopher, or a lizard, or a beetle with a tight grip. However, should the butcher seize a lizard by the tip of its tail, the bird would have tail, and nothing else, for its breakfast, as its cousin the

mockers has when he seizes a lizard. In the case of the mocker, he evidently wants nothing *but* the tail, as he could n't possibly tear to pieces or swallow a whole lizard. But the butcher wants the whole lizard, and takes pains to catch it by the back of the head, as you see must be the case when you find it stuck on a thorn.

The feet of the butcher are fitted for perching, more than for walking; but he is able to stand on the ground very well while he is getting good hold of a mouse or other animal. You will see him mostly on the top of a tree or perched on a telegraph wire, watching. He has a wonderful eye, and is so intent on the creature he is looking for in the grass or bush below him, that you may come close to him without the butcher turning his head. Wait and study him a moment! See how quickly he dives into the air and down to the ground, just as the kingfisher dives into the water.

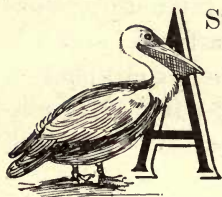
The nest of the butcher is placed in a shrub or tree, in March or April. It is a very large, thick nest. Sticks and grass and twine are so well matted together with little weed-leaves, that you might think it partly of mud, like the robin's nest. In southern California we have found nests made wholly of the white wild sage matted thick

and firm. Perhaps the butcher mother chooses this sage to keep the mites from invading the nest. You know, our birds must have a serious time with the mites at nesting seasons. If the swallows and phœbes and linnets who raise their broods two or three times in the same nest would learn a lesson from the butcher-bird they would do well. A few pieces of wild sage or pennyroyal woven in with the grass or mud would be a protection.

The eggs of the butcher are usually six, grayish brown with darker markings. By this number of eggs you might conclude that butchers are very numerous in the West. But the truth is, they are not often seen. Never in flocks! They are solitary birds, always "keeping still" on the watch, like a cat at a mouse-hole.

Of course, the shrikes are not common in our garden, for the reason, we suppose, that the food we provide for the other birds is not to Butchy's liking. We seldom see a shrike in our grounds. But we have tracked him! We found a little mocker impaled on a cactus leaf, the thorn stuck straight through the skull, at the base of the brain. However, as we started out with saying, we have a warm place in our hearts for Butchy. He is n't so bad as he might be!

THE BROWN PELICAN.



STRANGE bird is the pelican, and quite worth one's while to know. It measures three feet from the tip of the beak to the tip of the tail. The tail does n't amount to much, but the wings, when spread, measure from seven to nine feet. The short, stout legs are set well back, so it would seem little trouble for the great bird to stand upright like a man. The beak is several times as long as the head. On the tip of the beak is a sharp hook, which bends over the lower mandible when the beak is closed. This curious beak suggests a fish-hook, and such it really is. The business of the pelican is to catch fish. That is the reason we find it always along the sea-shore.

Could the pelican sing like a thrush, and were its song in keeping with its size, we should have deep, grand music indeed. But no thrush is the pelican, and no song does it sing.

REFERENCE TOPIC.

Food-pouches of gophers
and squirrels.

Along with his fish-hook the pelican always carries with him a fish-basket. Nor was he ever known to forget it, and leave it at home. This fish-basket might be a traveling-bag or a reticule sewed to the under lip. The beak opens and closes like the clasp-handle of a satchel or valise. This pouch, or bag, or Saratoga trunk, or whatever you may call it, holds, when well packed, several quarts or pounds. It is capable of stretching almost indefinitely when necessary, and collapsing when empty.

The brown pelican plunges into the water for fish, like the kingfisher. The birds carry the fish in their bag until it can hold no more, when they fly to some convenient place on the shore, open their basket and take a lunch. When fishing, the pelican has an odd way of throwing the head back, so the water may run out of the corners of the mouth. It is inconvenient to carry as much water as fish. When a brown pelican is off on a fishing excursion, it flies above the water with its head turned to one side, looking into the briny deep with one eye, as you have seen a mockingbird or shrike do from its perch. It makes a droll picture

The basket-throat of the pelican is not unlike the pouch-cheek of a squirrel or a gopher. Each

pocket is stuffed full of good things to eat. The squirrel and the gopher take nuts or pansy-roots, as the case may be, and off they trudge to their young ones. Pelican takes nothing but fish, and flies with it.

It is said that a pelican never eats a fish until it has been stored in its knapsack for some time. When the knapsack is full, the pelican snatches one more fish, and flies away with it across its beak.

The hawk sometimes watches at the fishing-places, and when the pelican goes home, follows it. Suddenly, hawk swoops down with a great flourish of alarm, and frightens poor pelican, so that he opens his mouth to scream. Out drops the fish, and hawk flies off with it, no doubt laughing, if hawks do laugh, at the good joke. And maybe he tells the story to his friends around the camp at night.

The pelicans nest on many of our Pacific coast islands. The nests are placed on the ground in the most retired spot, and made of a great mass of seaweed and rubbish. Father pelican goes off with his fish-basket to bring home the provisions, while mother pelican is occupied with the nest and eggs. There is a legend that the pelican mother feeds her young with drops of blood from

her own breast. This story is as true as legends usually are; and you should always take a legend with a pinch of salt. The truth is, the pelican presses the food up out of her own full crop with the tip of her great beak. At times a pelican's beak is tipped with red, so that a person looking from a distance would think it a drop of blood.

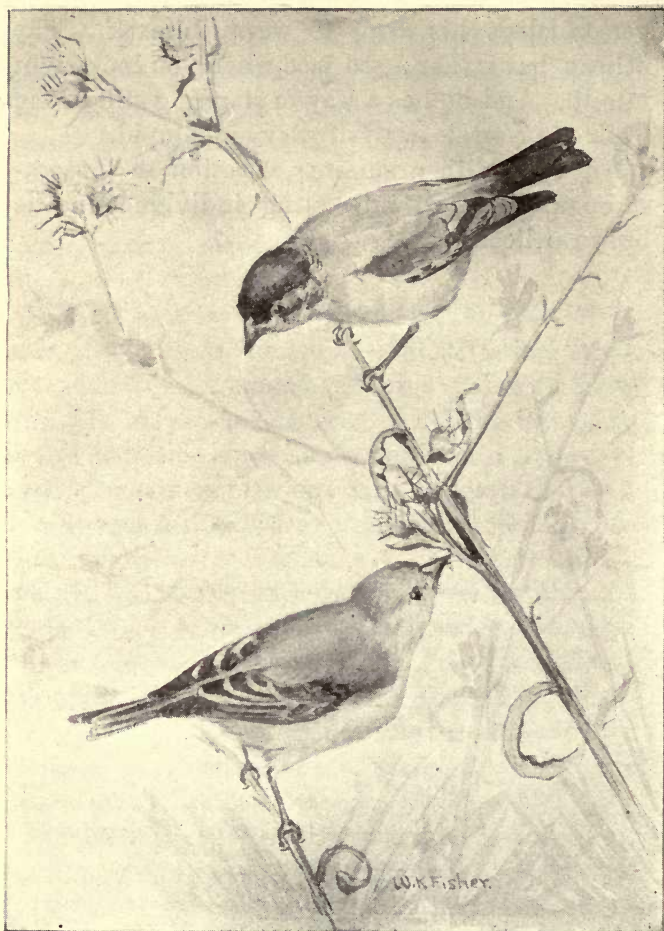
It looks as though a pelican would meet with some difficulty in preening and cleaning itself with such a great, ungainly beak as it has to work with. But a pelican knows very well how to use its feet to reach those parts the beak is unable to meet. Imagine a pelican trying to preen the back of its neck with its bill as other birds do. What a droll sight!

When pelican is annoyed, it is said to have an original way of opening its beak wide and slapping it together. This makes a great noise, and may well scare anybody who is easily frightened. The pouch collapses when the beak suddenly shuts, with a loud report, as when a paper bag is blown out and then punched.

When a pelican has remained long standing in the edge of the water, and feels cold and tired, it has a way of walking up on shore, standing straight like a man, and flapping its wings as a

person slaps his arms to warm himself. The pelican has rather a sad face when you look right into it. And he has a way of standing still a long while after meals, as if drowsy and stupid.

Any one with a summer vacation at the seashore will find an interesting individual in the brown pelican.



THE ARKANSAS GOLDFINCH.

THE ARKANSAS GOLDFINCH.



WE often hear this bird called the "wild canary." It does resemble our caged canaries in size and color and song. It is a common bird about our homes from April to late fall, and during this time nests, now high, now low, in trees. In winter we miss the finches for a while, on account of their taking trips off to the seed-fields, especially to the sunflower-patches on the uplands and in the washes of country roads. You may see them in large flocks, feeding upon the brown seeds. They will wait for you to approach them, when they will rise with a whirr, only to settle down on the next group of stalks. They look like the sunflowers, yellow and dark, flitting and flirting about. They seem very happy swinging on the stems and clinging with both feet while they peep under the chin of the bending flower.

REFERENCE TOPICS.

Where tame canaries come from; how raised and taught to sing.

Sunflowers: mode of growth and structure of seeds.

Always the sunflowers are in blossom and seed at the same time, and the green of the leaves is like the green of the canary's back. The goldfinch might properly be called the sunflower-bird.

The black patch on the top of a male canary's head makes one think of a skullcap pulled down to the brows. And this bird with the black skullcap is the singer of the family. His song is not prolonged, but it is very sweet while it lasts, though some people think it too plaintive to enjoy. The female has the same plaintive note, especially at nesting-time. It is with the mother canaries as with many other female birds who do not make a common practice of singing,—at nesting-time they are heard to respond to their mates and to twitter or sing low lullabies. We are able to locate the nest by this call-note of the female, which she utters almost constantly while sitting.

The Arkansas goldfinch and his wife are never far apart. They answer each other if separated even for a few feet, and seem never to grow weary of each other's company.

They love our orange and lemon orchards, the loquat trees, the cypress hedges, the walnut groves, and especially low-branching apple trees. They build their beautiful nests in any of these,

sometimes as low as your elbow. The nests are very carefully made. The wall is thickly matted, composed of plant-down, fibers and lichens, and bits of dried leaves. The nest is pressed into shape by the mother's breast, she revolving inside the cup until it is perfectly round. Then she lines it with horsehairs, threads, bits of feathers, and spider-web. When completed, the nest is about the size of an after-dinner teacup.

We like to tempt the goldfinches to build about our grounds; so we place twine in short lengths over a twig, and horsehairs and soft ravelings from cloth. We pinch bits of furze from the woolen rugs, and fur from the skins in the house, and place these in sight of the birds. We tie cotton batting in bunches to the bushes, and stick pampas plumes in the hedges.

We have known the goldfinches to accept each of these tempting offers, especially the pampas plumes, which they pull in little tufts and scatter to the wind as they fly. We have tracked them to the nest by these little tufts, and by the bits of white cotton which they love best of anything for lining their nests, in our grounds. When cotton is used, horsehairs are mixed with it, so the young birds may have something to cling to with their toes. With most birds, this having strings

and hairs to cling to is a necessary feature of the nest-lining.

In early spring-nesting, it sometimes happens that a storm of wind and rain batters the nests of the finches, and so we protect them as best we can. All the birds that live near us have learned to trust us, and will often permit us to shelter their nests with cloth or big hats, or an apron or an umbrella.

One time we noticed the young ones were growing so fast that two of them were crowded out of the nest. This is not uncommon, as the eggs are four to five in number and laid on five different days. You see, by this arrangement the first egg laid is hatched five days in advance of the last egg. There is quite a difference between a birdling five days old and one just out, as any one may see if he be lucky enough to have the nest of a goldfinch to watch.

Now, what should be done with two birdlings that sat straight up on a twig near the nest they had just been crowded out of, when a storm was brewing?

It was easy enough for us to place a black cloth over them, making a sort of tunnel of it, extending well back in the branches. The little things backed far up the tunnel, where they were covered

warm and dry; and here they were fed by the parent birds all through the storm, which lasted a week.

The goldfinches feed their young as do the linnets and hummers, both parents lending a hand, or rather a beak, at the nursing. Long after a brood has flown about the garden, they may be seen coaxing for "more porridge," in baby goldfinch voices already plaintive.

Though the male helps his mate in the feeding of the young, we have not seen him assist in the nest-building. But he does not desert her, like the humming-bird. He flies constantly with her to and from the nest, just behind her, sometimes singing on a low branch, as if to encourage her while she gathers material.

We often see the two hopping along by the door-step, picking up fiber and threads shaken from the house-rugs, the male close at the heels of his mate, standing on tiptoe, as if keeping watch.

Besides the Arkansas goldfinch, which is the most familiar of the finches, we have the willow-goldfinch, seen mostly in the willow groves in the river bottoms. We have enticed it to our grounds in late fall by planting rows of tame sunflowers in time for the seeds to ripen before the frost comes. The willow-goldfinch is larger than the

Arkansas, and has more black on its wings and tail, relieved by vivid golden yellow on the rest of the body. It glistens in the bright colorings of the orange and lemon trees as if the birds belonged to the citrus family.

We have another member of the finch family, called the Lawrence goldfinch. It resembles the Arkansas, but the black skullcap extends down over the whole face like a mask. It is sometimes called the "masked finch."

THE TOWHEES.



OUR towhees are ground-birds. You seldom see them flying high or sitting on trees. Like the thrashers and thrushes, they must scratch for a living. Their feet are formed on purpose for their business. They are large and strong, the toes spreading. Their beaks are strong and stoutly made, adapted to turning over leaves and other woodland litter, including the straw and chaff in our farm-yards.

You will meet the spurred towhee in the foothills and the arroyos, or in any of the retired country places. They love low undergrowth and shrubbery. If you happen to be out for a Saturday walk, you will hear a scratching in the brush, or fallen boughs, or behind wild grape-vines, or among the ferns of a cañon bank. The scratching is so loud, and plain, and continued, you might mistake it for that of one of your

REFERENCE TOPICS.

Irrigation of orchards.

Dry and wet seasons.

The principle of protective coloration.

own biddy hens. You stop and listen, and then move softly towards the spot. There is the towhee, scratching with both feet for insects in the litter! The blackbird scratches like a hen, but the towhee makes a quick hop-scratch with both feet at once.

Towhee does n't mind your presence, provided you stand perfectly still; and you may find its nest and mate by observing the direction it takes when its beak is filled with food. But you need not expect to see it fly straight to its nest. Towhees, along with many other birds, have a way of flying in an opposite direction a few feet or yards, and then, turning a sharp corner, fly to the nest. Our garden brown towhees often deceived us in this way until we came to understand their little tricks.

In late summer-time, when the moisture has dried out of the hills and cañons and oak pastures, the spurred towhees come to our grounds to scratch in the mulching under the trees.

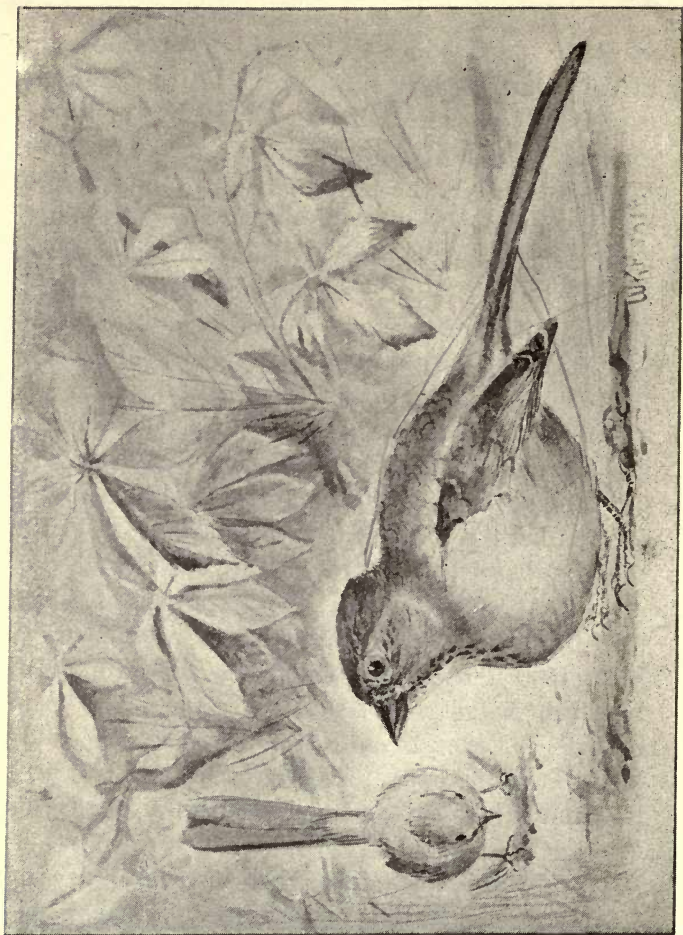
Our custom of irrigating and then mulching our trees in midsummer encourages insect-life of many sorts, and this, in turn, invites the birds, which would never think of visiting us on any other account.

We like to lie in a hammock beneath a fig tree whose branches droop to the ground. It is a

specially good place from which to study the birds. One day last summer we heard a scratching in the leaves near-by, and knew by the vigorous sound that it came from a spurred towhee. We had not seen the bird in our grounds before. So we watched, keeping perfectly still. The sound drew nearer, and then right beneath us appeared this towhee,—the very bird we expected.

Now, birds have a way of looking a strange object in the face without blinking, as if they would make sure of its nature! Spurred towhee stared at us as if determined to look us out of countenance, if we were living beings. But, seeing we did not stir, it took our hammock and its contents for a fallen tree, and remained near. It flew into the boughs of the fig tree, within a few inches of us, so that we had our best opportunity to admire this beautiful bird. There is such a charm in being near a live bird when it is all animation! Its form suggests alertness and shy grace. And its eye! O, you should seek the haunts of wild birds, and make yourself a tree or rock for just long enough to comprehend the beauty of a bird's eye!

The brown towhee, or brown robin, as you sometimes call it, lives in our grounds the whole year. It is also found in the foothills and low



THE BROWN OR CALIFORNIA TOWHEE.

lands, just anywhere in all our land where there is anything to scratch, or brush for cover. The towhees love our wood-piles, and the tree trimmings that are left for a while in the orchards. And they run about the door-steps, looking for the contents of the crumb-pan, which we toss to them. They *would* come in and help themselves out of the cupboard with the children when they come home from school, if they were allowed. Towhees and sparrows wonder why people on this happy Coast are bound to shut them out of their houses with those wire door and window screens! But we must have our screens, you know, so long as house-flies claim a right to come in of cold evenings. So, towhee takes up its stand on the steps, and sometimes we brush the birds off suddenly when we open the door.

The towhee nests in our grounds, anywhere from three or four feet in a shrub, to ten or twenty feet in a tree.

They begin their family affairs by the first week in March. The first intimation we have that nesting has begun is the sight of a brown bird running across the yard with a white rag in its beak. Often the rag chosen is too heavy to fly with, and the bird drags it along by slow degrees. By hard work it is able to carry it to the nesting-

site, where rags and twigs are placed alternately or all mixed up for the nest foundation.

We do not know why towhees are so partial to white rags. They will not accept red or blue, nor any color, save white. We thought it would be a good idea to make towhee build a Fourth of July nest; so we furnished red, white, and blue strips of cotton cloth. She took all of the white ones, and stood on the wheelbarrow asking for more, with her feathers all ruffled and her tail jerking. Then we thought we would outwit her by tying bits of the red and blue to the white rags. She took one or two to the nest, but declined the remainder. Nor would she touch them even after we refused her any more white ones.

We were glad, however, that we had coaxed her to use two or three of the colors, as even so little would give the celebration tone to the nest. When we looked to see what the effect would be, we were astonished at what she had done. That shrewd little towhee had tucked the red and blue out of sight, inside the nest, so that not a glint of either color appeared from without. Now, this was a queer notion of hers,—was it not?—and proves that birds have an eye to color. We can account for the towhee's choice of white in only one way. The nests are built usually in thin

shrubbery, and are easily seen through the foliage. Light is white, never red and blue, as it shines in streaks, or glints through the leaves. White rags in a nest are not noticed, since they



YOUNG TOWHEE.

are not different in tint from the rays of sunshine.

It must be from a sense of self-protection that the bird chooses white. What other reason are *you* able to give? Make it your spring duty to observe the brown towhees at their nest-work, and think out the reason for things.

Do not the towhee, and the humming-bird, and the song-sparrow, and many others, work on the principle of making the nest to suit the color of its settings?

We catch the towhees playing with the white rags we place in sheltered nooks for them, the whole year round. We have had them to build almost entire nests of white. Once we stamped our name on ever so many bits of cloth, and left them in the birds' way. What happened you may guess. Towhees from all around made nests that belonged to us. The neighbors told us their towhees had our name stuck in plain sight on different nests, and wondered at the strange incident. We said nothing, but it was understood between us and the towhees. Once we induced a towhee to lay a shred of news-paper in her new nest with an advertisement of one of our bird-books on it. We watched her with great satisfaction while she made it secure with straws and sticks. When she left the nest for more material, we slipped up to see the effect of our book review on the parlor-table, as it were, of one of the very best birds it treated of. Imagine our surprise to find an advertisement of a certain kind of soap in plain sight, and nothing else. It had not occurred to us to look on the opposite side of the

paper before offering it to our little friend to line her nest with. And there it remained all summer, as if towhee were purposely calling attention to soap, instead of to our bird-book.

The towhees are our especial pets, and we see to it that they have as much food as they want from our table. Though they do not sing, we are familiar with their call-note, or chirp, and think it musical. They have a way of cracking their bills or grinding them together when on the ground, making a rattling sound not unlike that made by a person who is in the habit of grinding his teeth when asleep.

THE BURROWING OWL.



THE little burrowing owls were among the first folk you met on your way to the Pacific Coast. After crossing the Mississippi River, you spent half your daytime watching the little fellows and their comrades, the prairie-dogs. Not that these two animals really love each other, or live in the same neighborhood for the sake of each other's company. The burrowing owls take up with the prairie-dogs and the ground-squirrels on account of the nice underground passages the latter make. True, the owls are able to make roadways in the earth for themselves, in a pinch, but they are lazy by nature, and much prefer taking advantage of another person's labor.

REFERENCE TOPICS.

Prairie-dog towns on the Great Plains.

Burrows of ground-squirrels.

Eyes of twilight birds and animals.

The burrowing owl has other names than the one so familiar in the books. He is the "johnnie-owl," the "billy-owl," the "cuckoo owl," the "senti-

nel owl," the "how-do-you-do owl," and whatever else you have a mind to call him. Not that he answers to either of his names: he will not so much as turn his head if you shout



THE BURROWING OWL.

at the top of your voice. You may think him sound asleep, or as deaf as a door-nail, until you are sure you have him, when lo! off he goes on his wings, or down the hole he runs on his yellow legs.

Because its name is "owl" you may think it a night-bird, but you are mistaken there. Burrowing owls seem to love the warm, bright sunshine, and are able to see by daylight nearly as well as any other bird. But they are most active just at dusk.

Like the young of the kingfisher, and the woodpecker, and the bank-swallow, young burrowing owls have no use for eyes so long as they are in the dark nurseries.

When they are quite well developed, and you would think them old enough to go out into the world on their own account, they may be seen

peeping from their doorways in the early morning, backing down out of the light as soon as the sunshine strikes them.

From a distance you could n't tell if it be a prairie-dog or ground-squirrel or burrowing owl that is sitting upright on a little mound of earth. And when a prairie-dog barks and the how-do-you-do owl sings in the same neighborhood, you could n't tell which was which on short notice. When you get close enough to see the stanch long legs of the owl, you will recognize him. And there are his eyes, big and round, staring at nothing, as only the eyes of any owl, or of a cat, can stare.

➤ No use for trees has this queer little bird, which seems, in its habits, so like a rodent. It always prefers the open country, with the foxes, and squirrels, and badgers, and rattlesnakes. Sometimes they may be seen in big towns or settlements, and again with just a neighbor or two, as if one or two individuals had taken up a quarter-section of government land. You may anticipate great fun in digging out a ground-owl, as you did in the case of the kingfisher and the woodpecker, but the chances are you will give it up before you have finished. Should you conclude to go on, you would n't be sure of just how many white eggs

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you were to pocket when you got to the chamber at the end of the tunnel,—it might be six, and it might be ten, and it might not be any at all, if the rattlers had been there before you.

The ground-owl family have no fear of cold or storm. They run far back to the extreme end of their dwelling, and cuddle together until the storm is past, waiting several days, if snowed under, before digging their way to the light.

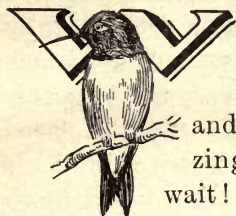
It is supposed that mice and lizards and insects also see the storm coming, and take refuge in the same chambers with the owls. On this account do the owls have a good store of food for their rainy day. The first lizard or mouse caught in the act of tickling an owl's yellow feet is breakfasted upon, without hesitation on the part of the owl. Is he not a meat-eating animal by nature? And the mice and lizards should learn a lesson by the example of their comrades, who never are seen after once entering a ground-owl's chamber.

Burrowing owls have been accused of loving the company of the gophers and squirrels and prairie-dogs for the purpose of eating up the young ones. By a careful examination of their stomachs it has been proved that ground-owls live mainly upon mice and lizards and small insects. As for rattlesnakes, if one of these ground

terrors chance upon the doorway of a ground-owl, and venture, by mistake, to enter, his fate is probably in advance of him, for, it is said, he is sure to be killed by the owl.

A curious life the ground-owl leads, never flying in the treetops, nor migrating to different parts of the country to see what is going on in the world. And yet we suppose he must be happy in his own way, or, at least, is perfectly satisfied with what has fallen to his lot.

THE ANNA HUMMING-BIRD.



WHEN you are near the shrubbery about your home, or in the river bottoms and arroyos, and you hear a humming or whizzing sound, stand stock-still and wait! You will see a glint of lilac-crimson and golden-green, with a shimmer of dusky wings—and that is the male Anna hummer.

He may alight close to you, on a twig as small as a hat-pin, and preen himself, and listen, and doze off to sleep. Suddenly, he will open his eyes at a sound you did not hear, turn his beautiful head, and dart off into the sky. You may watch him until he is the size of a fly far in the blue, when, without notice, he will dart down, and then whirl in circles above your head, and trip east and west, zigzag, in mid-air, and then disappear in the bush. If you wait a while

REFERENCE TOPICS.

Sycamore trees and leaves.

Construction of spider-webs.

Habits of spiders.

Habits of opossums.

longer, he will go through the same performance, and you may catch sight of his lady-love sitting demurely on a bough. It was for her he was showing off so beautifully. She has no sparkling gems, or scales on her head and throat, like her mate. Just dull green she is, above, with whitish gray beneath, but with the very same slender black beak and feet and clear black eye. She is accustomed to the antics of her lover, and pays little heed to him. You will see her take a nap while he is gone into the sky to turn somersaults on the down trip.

These little birds, not more than three inches and a half in length, are among our best and dearest. They are fearless, especially if we avoid sudden movements, and will not fly even though we touch the twig on which they are sitting. One may take a handful of flowers, nasturtiums or verbenas, and walk slowly about the grounds or sit quietly down, and the hummers will come and sip the nectar, fanning one's face with their gauzy wings.

At nesting-time the male is nowhere to be seen. He has gone to the foothills, or somewhere else, to study botany among the wild flowers. The little mother bird does not care, and she goes on alone with the family affairs. The nests are fre-

quently very low, as near the ground as two or three feet, but more commonly in a tree. They like the sycamores by running streams.

If you examine a sycamore leaf, you will find the under side covered with wool, as if it were a sheep's back. This wool the hummer gathers to weave into her nest. Besides this wool, she uses spider-web and lichens, and furze from weeds. When it is completed, the nest looks exactly like the branch on which it is built, so that it takes a sharp eye to discover a hummer's nest.

But sycamore leaves with wool on them are not to be found in midwinter, when the hummers first begin to nest. It is only in midsummer or late spring that you find a nest made of wool. In winter the hummer finds other material, and always plenty of spider-web. Our cypress hedges are Anna's storehouse for spider-web. You see the little, transparent, glistening patches all over the hedges on a foggy morning. Anna sees them, too, and flies to one and all, gathering her beakful without once standing on her feet. If the tiny spiders see their enemy, they run back into their parlors behind the outer leaves, and keep as still as mice. Should they not run fast enough, hummer will make a breakfast on them.

It used to be supposed that hummers eat

nothing but nectar from flowers; but it is well known now that humming-birds cannot live on nectar alone. They must have insect-food. Garden spiders, too small for other people to catch sight of, are their special favorites. Little gnats that dance about in the air, and which you cannot see unless you stand in exactly the right light, are hummer's supper.

If you make yourself known to the mother in quiet ways, never stirring about quickly where she is nesting, she will give you all her secrets. It will pay you to watch, an hour at a time, without speaking to any one. You will notice that as soon as the nest is about as deep as a blue-gum blossom cover, or an acorn saucer, the first egg will be laid; next morning, another,—and these two are the proper number of eggs for any hummer. Never any more. As she sits, you will see the mother fly away to the hedges, often in the warm hours of the day, and bring back web and lichens. With these she builds the nest higher and larger around the eggs until it is the right size. In ten days you will see the young are hatched in the nest by the way the mother stands up and arranges something beneath her breast, gently, with her beak. Do not be in haste to look, but wait until she leaves it for a minute.

Then peep in and say, "O! O!" What you see is not so very much bigger than a couple of capital O's. And they are black and bare. They move the least bit. They may possibly make a cry, that only the mother's ear can hear, for she returns at once and settles down above her darlings, not minding you right in front of her. She has learned by this time that you would n't harm the nest. You will keep on watching every minute you can spare, and will notice that for a week the little hummers are fed as often as every fifteen or twenty minutes. After that, longer times between meals will answer. The mother places her beak in the throat of the little ones, exactly as the linnets and finches do, and gives the food, warm from her own breast. At first the young are too weak to lift their heads, and the mother is seen to turn their beaks with her own, until they are in a position to take their meal. But the young have not much of a beak to begin with. You will notice that they are only pointed lips. But they grow, until in a week you think they look quite like humming-birds' beaks.

There is something about these strange, slender, black bills which you will never see for yourself, and so you must be told. If you watch a hummer on a bough, napping, you will see it yawn when

it wakes, and put out its little black tongue beyond the beak. Now, the tongue and the beak together make a very long spoon or tube which is dipped into flower-cups. You wonder, while you see the long tongue, what the bird does with it when her mouth is shut. Sure, she curls it up around the back of the skull when she is n't using it. You have seen the tongue of some of the moths curl up under the chin like a watch-spring when they are not at their meals.

It would take pretty good eyes to see that the tongue of the hummer is a double-barreled tube, but such it really is. Should you offer *honey* to the bird, she could not take it. It would be too thick. Nectar is not honey. It is thin, like water, but very sweet.

Once we found a boy with a little humming-bird in his hand. He refused to tell us where he obtained it, and so we could not give it back to its mother. We mixed honey and milk together, and fed it with a little eye-dropper, drop by drop. Next day we placed it in the nest of a mother hummer, and she adopted it, and brought it up very tenderly, as if it were her own.

Humming-birds seem to be loved by the other birds in our grounds. They are not disturbed nor driven away. They nest with us every year,

in midwinter. When it storms, we cover the nests with parasols or cloth, and the mother seems to understand.

It is said that a humming-bird can be frightened to death if caught. We never try to catch them in the garden. Once a male flew in at the window, and persisted in flying about the ceiling. We could only catch it with a broom, very gently. When we took it up, it lay on its back as if dead. We took it outdoors, and it opened one eye. Then as quick as a flash it flew away. Some birds, and many insects and animals, do "play dead." It has been said that when a man is attacked by wild animals like tigers, he is safe if he, too, "plays 'possum." So the humming-bird possesses the instinct of "playing 'possum" for good reasons. But this is only when they have not been tamed at all. Those birds which come to know us in the garden allow us to touch them, or even to break the twig on which they sit and carry it away. But if we touch them, it is ever so lightly. We do not grasp them. That would make them afraid, and spoil the fun of having them so trustful.

Humming-birds do not thrive in confinement. They are never seen on the ground. At nesting-time the mother comes to a pile of old, slacked

lime and plaster, and eats it, supporting herself by her wings. The tiny feet are unable to walk or to stand on a flat surface. If window-boxes are fitted to schoolroom windows, and nasturtiums allowed to bloom in them, the humming-birds will come and make themselves at home. City houses can have these window-plants, and so the beautiful hummers may be seen every day. We have known them to drink from a saucer of sweetened water placed in the window.

THE BUSH-TIT.



THE BUSH-TIT is the smallest of all our birds, save the humming-birds. It is a familiar and abundant bird on all our Coast. In winter, the woods everywhere are full of the tiny things, working for their living from morning till night. High and low, in bush and tree, far from our homes, or right in our gardens and orchards, you may see and hear these little tits. They keep up a constant twittering, whether in pairs or flocks. In winter, they may be found in groups or family parties of a dozen to twenty. These are probably not real flocks, as you see in migratory birds, but a single year's family all together.

As from five to eight little ones comprise a single brood, and a pair of bush-tits may nest three times during the spring, you can see that a single season may result in quite

REFERENCE TOPICS.

Scale insects on fruit trees. How injurious.
How destroyed.

Red, black, and cottony cushion scales.

Value of birds and ants.

a family party. And they have a way of keeping together not seen with other birds.

In late winter and spring you see only pairs together. They begin to talk of family affairs by



YOUNG BUSH-TIT.

January and February, and may be seen hunting nesting-sites before the frost has left the ground under the hedges.

The humming-bird builds the smallest nest among the birds, and the bush-tit the largest, compared with the size of the builder. We have seen several of these swinging nests that measure

twelve inches in length, after they are stretched by wind and rain, — longer than any oriole's nest we know of. Both birds work at the nesting, beginning early, while the weather is still wet and cold, like the thrashers and hummers.

The bush-tits may select any site from the top of any high tree to a low rose or other bush. There is no knowing where you may find it! But when once you have become familiar with the twitter of the wee birds, you will know when you are not far from their nest. Sometimes it is at the tip of a swaying bough, and again it is concealed in a thick bush, but it is always hung like a pocket.

So far as *we* can make out, one site would be as good as another, but the low conversation the birds have over the matter convinces us that they have some good reason for selecting a certain spot. They must take into account wind and rain, with an occasional flurry of snow, besides a hot spell, especially in southern California.

We have seen the bush-tits build a good many nests, and examined more, which we have found in different places, and they all look alike. They are exactly the same color on the outside, varying a little in shade, — a mixed drab, gray, and white. The nest is composed of mosses, bits of dried

weed-fiber, threads of plants, sycamore-leaf wool, and soft bits of anything else.

The beak of the bush-tit is very small and pointed, and could not carry large loads of anything, like the mocker and the blackbird. So the nest is put together in the smallest pieces, bit by bit, making a sort of felt when it is finished, not easily torn or broken. Thistle-blossom, and milkweed, and everlasting, with sage scraps, are hidden away from last fall's harvest by the wind and tucked into nooks for the bush-tits to find in the spring.

The bush-tits are insect-eaters, and among other foods which they like are the little spiders about hedges and on the trunks of trees and in cracks along the bark of dead wood. You have seen little, round, flat coverings of these spiders' eggs that stick on flat surfaces and are not readily torn up. In their search after spiders and fresh eggs for breakfast, the bush-tits tear these little round egg-wrappers off, and use them in their nests. All through the lichens and plant-fiber we find these little round white disks. On the outside of one nest we found fifteen of these spider-cocoons fastened with threads from decayed cactus stalks.

One would think the birds would use strings to

fasten the nest in place, but they do not. It is held by matting bits of anything together, — not woven, but pressed and lapped. It is not like the oriole's nest, though the nest of the Baltimore oriole resembles it, in a way. The oriole actually weaves her nest of string or fiber. The bush-tit makes a coarse, strong felt. You may understand the difference by comparing a piece of old wool-felt hat and woven-straw hat. And yet the bush-tit's nest hangs to the tree as firmly as that of an oriole. We have not known a storm to tear one of them away. It may become stretched and blown out of shape, but a nestful of young bush-tits in a March storm is as safe as though placed under the barn-eaves.

The nest begins with a round, bulging upper end. After an inch or two, it narrows into a smaller neck, like a bottle, and then widens into the long pocket. On the side of the long



BUSH-TIT'S NEST.

pocket a round doorway is made, just large enough for one bird to pass in and out. We have seen a doorway in the top, as well, and in one single nest there were three doors. But this is not common. Just one door is the rule, and that one is placed on the south side of the nest, probably so our northeast storms will not drive in.

At the bottom of the pocket, on a soft lining of wool or plant-down, the eggs are placed. The young remain in the nest until full-feathered, and when they come out they are exactly the same color as, and but a little smaller than, their parents. In our garden they remain about the home-tree for several weeks, like the humming-birds, sitting on a twig at night, snuggled all in a row, like peas, with a parent bird on either side.

The bush-tits have built in the same pepper tree in our grounds for years. They are fearless of us, and accept bits of things we place in sight for their nests.

We have brought in old nests from the foothills and placed them in sight of the bush-tits, when they would pull them to pieces and use every bit in their new nest. Once we placed surgeon's absorbent cotton in sight of the bush-tits, and it made them fairly wild. They could carry more of this cotton than of any material they had ever

seen. Cotton sticks together, and does n't fall apart like threads. The "bushies" worked long and well at the cotton until they had as much lining as outside to the nest. But a dreadful thing happened! Absorbent cotton takes up all the water, you know, and holds it. Common cotton will shed water. A storm came when the eggs were ready to hatch, and drove right in at the nest door. Of course it drowned all the little bushies. There they lay in a puddle of water at the bottom of the nest. We had not thought of the rain when we put out the cotton!

The old birds tore the nest all to pieces, and built it over again in another pepper tree; but they would have nothing to do with the cotton. They dropped it on the grass. Nor will they touch another bit of white cotton, though we place it all about for the birds every spring. They have learned a lesson.

The bush-tits are very useful birds. Though so small, they seem never to get enough to eat. And you may see them at the scale on the orange and other trees, as if it were their business to help us get rid of it. If we had more bush-tits about our homes, they would take all the scale that annoys us so. We have seen them hunt in a Japanese vine on the fence until they had taken

every scale; and the olive trees are their favorite hunting-grounds. Wherever the black scale is found, there, also, is the dear little bush-tit with its cheerful twitter.

OUR WEST COAST THRUSHES.



THE HERMIT THRUSH is a winter visitant on this Coast. It runs along under our window, through the dripping myrtle and nasturtiums, by the first dawn of the morning. Always there is one bird alone, as if it were indeed a hermit, caring nothing for the society of other people. It is the most beautiful singer of any ground-bird we are acquainted with.

The sparrows go in pairs or small companies over the selfsame ground near the house, but the hermit is all by itself, with only its melody for company.

We hear the song before it is quite daylight, and run to the window to look. There is the hermit, creeping along in the dusk, under the plant leaves, after his breakfast of belated night-insects. Many insects are fond of moist climates, and would die quickly in the dry, warm noontide.

REFERENCE TOPICS.

Climate (dry and wet),
and its effects on
plants and animals.

So they make home under the violet and pansy leaves, and among the ferns we brought down from the cañons and planted under the north window. Hermit knows their habits, and hunts confidently. Why should he or other birds be afraid in our grounds? They have learned that we allow no cats or dogs on the place. We would rather have one hermit thrush in winter under our bedroom windows than the pick of all the cats in the country.

You will notice that the beak of the thrushes is unlike that of the sparrows. The thrush has a long, pointed beak, but not so pointed as the oriole's. It is exactly the proper shape to pick up small insects, but it would be unable to crack seeds or sew stitches of palm-fiber. We feed crumbs to the hermit on the garden-table, and he appears to enjoy them, especially if they be cookie crumbs. He also likes berries which have been left on the stems on purpose for our winter visitors.

The hermit hides away in dark places by daytime. It nests in the far mountains and forests of the North, where it sings its best songs to the deep, dark woods.

The russet-backed thrush so nearly resembles the hermit, that it takes a keen eye to tell which

is which. But when summer has come, and our winter visitor the hermit has gone away, we know the bird we see is not the hermit, but the russet-back. We do not see him at all, perhaps, for a long while, but just at nightfall, when the other birds have mostly gone to bed, there comes a liquid note, like the drip of water, from the thickest shrubbery. We know it is the russet-back, and we smile, and keep very still, so we may hear more of that liquid song-drip. Like all the thrushes, it is a ground-bird, getting its living by tilling the soil, like the farmer that it is. You might find it nesting in the moist willow regions, or in the cañons, where the little streams have not been all turned into iron pipes for city uses.

The russet-back is a shy bird, not flying high in plain sight, like the mockers and finches and other birds. If you are out to find it, you would better hunt in moist places, under the holly bushes, where the loam is dark and rich.

The thrushes make similar nests everywhere. They seldom use mud, like their relatives the robins, but you might take it for granted they do, by the appearance of the nest when it is done. You must learn to examine closely, if you are a bird-student, for differences that do not speak in very loud tones. The nests of the thrushes are

packed and felted together leaf by leaf, or grass blade by grass blade, dead leaves and fiber, so that the whole is as compact and snug as if dried mud. They pack the material when it is wet, and so it adheres firmly. Their nests never crack, like mud nests, but seem a part of the damp, cool nooks they are placed in. The eggs are greenish blue, spotted with brown, and you may find four or five. Leave them to the nest, and you may have the fun of seeing russet-backed baby thrushes before they have much else but skin on their backs.

The varied thrush is quite different from either the hermit or russet-back. It is as large as a robin, and is often called the Oregon robin. But with the varied thrush as with its relatives, you



must be up early to see it. And you must be very quiet. You will never see a varied thrush in

winter if you make any noise or walk rapidly about. Like the hermit and the russet-back, it loves best to be alone, except at nesting-time. The varied thrushes come south in winter,

THE VARIED THRUSH.

and we know they are here by

the vigorous scratching going on in the mulching under the trees. And it is such a striking bird in colors, that it makes a pretty picture, contrasting with the orange and green of the citrus orchards.

When the farmer or orchardist mulches his trees just before the first rains, he little thinks he is setting a table for visiting birds. But so he is. All sorts of insects thrive in warm, loose litter, and the thrushes wait until it is moist and well packed before they come to scratch it over. Mulch, especially barn-yard litter, makes a warm nest for insect eggs and larvæ, as you may find out for yourself if you thrust your hand far down beneath it some cold day in winter, where it has been spread weeks before to enrich the trees. You will find the earth beneath the mulching as warm as on a spring day. It is here that varied thrush finds its breakfast, and he often digs a long while before he gets down to the warmest spot, where his quest is sure to be rewarded.

The varied thrush spends the summer in Alaska, nesting in the deep woods, in dark spruce trees. The nest is felted with dead leaves and fiber, like that of the russet-back, but also has a mixture of mud, like the robin's. In that far north home these thrushes lose their shy habits,

and forget to be hermits. They appear about the last of May, and make the woods ring with their musical note, even before the lakes and streams have thawed.

On their arrival in Alaska, they find berries for food just thawing out of the snow-drifts, cranberries and blueberries. They have a gay time after they arrive, before it is quite time to begin nesting. They frolic in the woods, and chase one another, and squeal, and have many a beak-to-beak fight, though no one seems to be very much hurt.

A pair of varied thrushes are said to return to the same spot year after year in the cold north, making a new nest each season, on top of the last year's nest.



IDENTIFICATION CHAPTER.

Western Gull (the common Sea-Gull).—Legs rather long and feet webbed; bill deep and strong; length, 2 feet; plumage pure white, except for top of wings and middle back, which are dark slaty blue, and part of the wing-feathers, which are black; young mottled with drab or brown. Abundant resident along the sea-coast and in San Francisco Bay. (See page 103.)

Brown Pelican.—Length, $4\frac{3}{4}$ feet; stretch of wings, $8\frac{1}{2}$ feet; bill, 13 inches long, with large, bare elastic pouch hanging beneath; head white, yellow-tinged; rest of plumage grayish. Common most of the year along our Western sea-coast south of Puget Sound. (See page 147.)

American Coot, or Mud-Hen.—Duck-like in appearance and habits, but legs long, and toes "lobed" instead of completely webbed; plumage sooty black, more slaty below, sometimes whitish; bill conspicuously whitish, with an extension running back onto the forehead; length, 14 inches; tail very short. Abundant on ponds and marshy lakes everywhere. (See page 93.)

Killdeer Plover.—Legs long, three-toed; length, $10\frac{1}{2}$ inches; back brownish; lower parts white, except for two black bars across the breast; white patch on forehead between two other black bands. Abundant resident on damp meadows and around ponds. (See page 97.)

Mourning Dove (often called Turtle-Dove).—Length, 12

inches; tail, 6 inches, wedge-shaped, with pointed feathers tipped conspicuously with white; back and under surface brownish, changing into pinkish on the breast and gray on the head. Abundant in spring, summer, and fall, almost everywhere in the West. (See page 15.)

Burrowing-Owl, or Ground-Owl.—Rather small for an owl; length, 10 inches; legs long and bare; plumage, above, dull brown spotted with white, below, whitish barred with brown. Common resident of prairie regions or uncultivated fields. (See page 168.)

Road-Runner.—Large and pheasant-like; total length, 2 feet, of which the long tail takes up 12 inches; wings short and weak; head with a steel-blue crest; plumage, above, varied with glossy dark blue, brownish and whitish; under parts whitish, with breast narrowly black-streaked; tail tipped with white. Common resident of the warmer valleys and foothills of the Southwest. (See page 130.)

Belted Kingfisher.—Length, 12 inches; head with a tall crest; this and the rest of the upper surface slaty gray; lower parts white, except for a band of slaty blue across the breast; in the female there is also a belt of rufous brown, which also tinges the sides. Locally resident along streams and sea-coast. (See page 60.)

California Woodpecker.—Length, $9\frac{1}{2}$ inches; steely black, except for white patch on wings, conspicuous in flight; white band on forehead; yellowish throat-patch; bright red crown-patch; white rump; and white belly. Common resident of oak regions, and of forested country generally. (See page 31.)

Red-breasted Woodpecker, or Sapsucker.—Length, $8\frac{1}{2}$ inches; whole head and breast dull red; belly pale yellowish;

back, wings, and tail black, marked with white. Sometimes a common winter visitant to the valley regions, where it pecks spirals of small holes around the trunks of alder, pepper, peach, and other trees. (See page 31.)

Red-shafted Flicker.—Length, 13 inches; body in general brownish or grayish, the back narrowly barred, the breast polka-dotted with black; under sides of wings and tail red, this and the white rump-patch being conspicuous in flight; male with bright red patches at sides of throat. Abundant everywhere, especially in winter. (See page 38.)

Anna Humming-Bird (not the "Ruby-Throat," which is found *only* west of the Rocky Mountains).—Very small; length, 4 inches or less; bill long and slender; wings narrow; back shiny green; *female* with lower surface plain, ashy, tinged with green; *male* with brilliant iridescent "gorget" (throat-patch) and crown, of changeable ruby-red hues. Common resident of the valleys west of the Sierras; especially numerous about flower-gardens. (See page 173.)

Black Phoebe (often called Pewee).—Length, $6\frac{1}{2}$ inches; bill shallow, but broad at base; feet rather small; whole body, wings, and tail black, except for the lower surface from the breast back, which is abruptly pure black. Common permanent resident in the valleys of California; oftenest met with along streams, about barn-yards and stock-farms. (See page 21.)

California Jay.—Length, $11\frac{3}{4}$ inches; tail $5\frac{3}{4}$ inches; wings, tail, and most of head blue; line over eye, throat, and rest of lower parts white. Abundant resident west of the high Sierras. (See page 67.)

Common Crow.—Length, 16 inches; bill and feet stout;

plumage entirely jet black. Common coastwise, and locally in the interior valleys west of the Sierras. (See page 41.)

Linnet, or House-Finch.—Length, $5\frac{1}{2}$ inches; bill short and very stout; *male* with head, breast, and rump bright red; elsewhere streaked obscurely with grayish brown; *female* and *young* grayish brown all over, streaked dully with brown beneath, but no red anywhere. Abundant permanent resident, except in the high mountains and northerly. (See page 7.)

Willow Goldfinch (often called Wild Canary).—Length, $4\frac{3}{4}$ inches; *male* with crown, wings, and tail black, the latter with white markings; rest of plumage entirely bright yellow; *female* entirely greenish brown, tinged with yellow beneath. Common in summer in willow groves and cultivated orchards in moist localities. (See page 157.)

Arkansas or Green-backed Goldfinch (often called Wild Canary).—Smaller; length, 4 inches; *male* with whole top of head, wings, and tail black, the latter marked with white; back dark green; lower surface bright yellow; *female* duller, without black on head. Common resident of the valley and foothill regions. (See page 153.)

English Sparrow.—Bill stout and swollen; length, 6 inches; general color grayish brown; *male* with large throat-patch black; sides of head and patch on wing chestnut; back streaked with sooty; *female* plainer, grayish beneath and brownish above. Resident in towns of central California, especially the bay cities. (See page 114.)

Western Chipping Sparrow (Chippie).—Smallest of our sparrows; length, $5\frac{1}{4}$ inches; tail proportionately long; lower surface ashy white; back pale brown, striped with black; top

of head with large chestnut patch; forehead and line through eye black; line over eye, and vertical dash in center of forehead whitish; young streaked below. Common in summer in gardens and orchards, as well as in native woods. (See page 113.)

Song-Sparrow (with several different races).—Length, $5\frac{1}{2}$ to $6\frac{1}{2}$ inches; bill cone-shaped; feet strong; plumage, lengthwise streaked with brown or blackish, the streaks below joining to form a dense black spot in center of breast; belly white; top of head and back with admixture of chestnut. Abundant resident along streams and in moist brushy places generally. (See page 53.)

Fox-Sparrow (with several races).—A large sparrow; length, 7 inches; feet large; bill sharp-pointed, but very thick at base; general color above, dark brown; below, whitish, thickly marked on breast with conspicuous sooty-brown arrow-shaped spots. Common winter visitant in brushy localities anywhere, appearing about hedges and gardens. (See page 109.)

White-crowned Sparrow (three races).—Length, $6\frac{1}{4}$ inches; below, ashy white; above, pale brownish, streaked with dark brown, or sooty; wings variously mottled with bay, whitish, and sooty; top of head with three conspicuous white stripes and two jet-black ones; young with black crown-stripes replaced with brown ones. Abundant winter resident everywhere. One race (Nuttall sparrow) summers in coast region from Monterey northward, including the San Francisco parks. (See page 111.)

Golden-crowned Sparrow.—Larger; length, $6\frac{3}{4}$ inches; beneath, pale brown; above, darker, streaked with sooty on the back; top of head with two black stripes inclosing a bright

yellow crown-spot; young with black head-stripes replaced with brown, but yellow always present, though sometimes pale. Common winter visitant in brushy localities west of the Sierras. (See page 109.)

California or Brown Towhee.—Feet and bill stout; length, $8\frac{3}{4}$ inches; plumage almost uniform brown, becoming reddish under the tail; throat paler, with a margin of faint dusky spots. Abundant resident west of the Sierras. (See page 161.)

Spurred Towhee (with three races).—Length, 8 inches; bill and feet stout, the hind toe bearing an unusually long claw; whole head and upper surface black or sooty brown; a few white spots on wings and at tip of tail; sides bright rufous; belly white. Common resident of brushy places and hedges (See page 159.)

Cliff-Swallow, or Eave-Swallow.—Bill and feet small; length, $5\frac{1}{2}$ inches; under parts white, except for a black breast-spot, and a chestnut-brown throat; forehead conspicuously whitish; top of head and back dark steely blue. Abundant summer visitant, building a gourd-shaped nest on barns and cliffs. (See page 121.)

Bank-Swallow (sometimes called Sand-Martin).—Smaller; length, 5 inches; upper surface sooty brown; beneath, white, with a dark band across the breast. Common locally as a summer visitant, nesting in holes in bluffs and river banks. (See page 117.)

Cedar Waxwing.—Length, $6\frac{3}{4}$ inches; head with a tall crest; tail tipped with yellow; some of wing-feathers with bright-red waxy tips; black stripe on sides of head; rest of plumage softly tinted with olive-grays and browns. Irregular

winter visitant in flocks, feeding on various wild berries. (See page 125.)

California Shrike, or Butcher-Bird.—Length, 9 inches; above, plain slate-gray; below, whitish; wings and tail black, with white areas, which show in conspicuous contrast during flight; a jet-black belt on sides of head, inclosing eyes. Common resident of open valleys. (See page 141.)

Audubon Warbler.—Length, $5\frac{1}{2}$ inches; plumage in winter, above, brownish gray, dusky streaked; the same, but paler, beneath; a bright yellow spot on rump, one on crown, one on throat, and one at each side of the breast; wings and tail blackish, the latter with large white spots near tip, which show as a conspicuous white band in flight. Abundant winter visitant to the valley regions of California, summering in the high Sierras and northward. (See page 75.)

Yellow Warbler, or Summer Yellow-Bird.—Small; length, $4\frac{1}{2}$ inches; bill slender; *male* almost wholly bright yellow; narrow chestnut stripes on breast, and back greenish; *female* yellowish green, paler on lower surface. Common spring and summer visitant to deciduous woodlands and orchards. (See page 75.)

Mocking-Bird.—Length, 10 inches; tail $4\frac{3}{4}$ inches; wings and tail blackish, with a large amount of white, which shows as conspicuous patches in flight; upper parts drab gray; lower surface whitish; bill and feet black. Common resident of the southern Californian and interior valleys. (See page 84.)

Vigors Wren.—Length, $5\frac{1}{4}$ inches; bill long, slender, and slightly curved; above, plain dark brown; beneath, ashy white; a conspicuous white stripe over each eye; tail tipped with ashy and narrowly barred with sooty; rump with partly

concealed white spots. Common resident of brushy places everywhere. (See page 137.)

Parkman Wren, or Western House-Wren.—Length, $4\frac{3}{4}$ inches; bill shorter than last; *no* conspicuous white line over eye; plumage plain ashy brown above, somewhat paler beneath. Common summer visitant in wooded regions. (See page 138.)

Tule-Wren (often called Marsh-Wren).—Small; length, $4\frac{1}{2}$ inches; top of head and middle of back black, the latter streaked with white; elsewhere light brown, becoming whitish below; wings and tail finely barred with black. Common resident of grassy marshes and swamps. (See page 140.)

Cactus-Wren.—Very large for a wren; length, 8 inches; plumage above, brown; below, whitish; everywhere streaked or spotted with black. Common resident of the driest localities in southern California. (See page 135.)

Bush-Tit.—Very small; length, $4\frac{1}{4}$ inches; tail proportionately long; color, plain brownish gray, lightest beneath and brownest on top of head. Abundant resident of wooded valleys and foothills, especially among oaks. (See page 181.)

Hermit Thrush (with several races).—Length, $6\frac{3}{4}$ inches; above, dark brownish gray, brightening to deep rufous on tail; below, white, coarsely spotted with sooty across the breast; a concealed yellowish brown band across inside of wings, which shows only in flight. Abundant winter visitant. (See page 189.)

Russet-backed Thrush.—Length, $7\frac{1}{4}$ inches; above, uniform russet brown; below, whitish, suffused with pale tawny across the breast and sparsely spotted with sooty brown.

Common summer visitant to the damp lowlands, especially along streams. (See page 190.)

Western Robin.—Length, $10\frac{1}{2}$ inches; head, wings, and tail blackish; back grayish brown; throat narrowly black-and-white streaked; rest of lower surface bright rufous brown, or “red.” Abundant winter visitant to the valleys, summering on the mountains and northerly. (See page 45.)

Varied Thrush, or Oregon Robin.—Size of common robin, but tail rather shorter; length, $9\frac{1}{2}$ inches; *male* with back dark slate; below, orange brown, with a conspicuous black bar across breast; line over eye orange brown; *female* similar, but back browner, and breast-band brownish or nearly wanting. Common midwinter visitant in the foothill regions, feeding on wild berries. (See page 192.)



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